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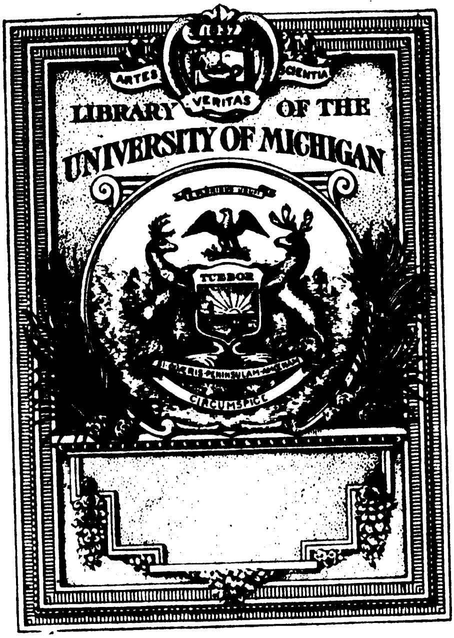

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ANNUAL REPORT OF THE BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS

FROM JULY 1, 1909, TO JUNE 30, 1910

VICTOR G. HEISER, M. D.
DIRECTOR OF HEALTH

PASSED ASSISTANT SURGEON, UNITED STATES PUBLIC HEALTH
AND MARINE-HOSPITAL SERVICE

MANILA
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ANNUAL REPORT OF THE BUREAU OF HEALTH.

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
Manila, August 10, 1910.

SIR: I have the honor to submit the eleventh report of the Bureau of Health for the Philippine Islands, covering the period from July 1, 1909, to June 30, 1910.

GENERAL CONSIDERATIONS.

The work of the Bureau of Health for the past year has been characterized by expansion into new and broader fields, as well as by a gratifying advance along routine lines.

Among the new projects, is the establishment of hospitals of modern construction where there have been no hospitals of any kind heretofore. The Philippine General Hospital is almost completed and the equipment has already been secured. A reinforced-concrete hospital at Culion was finished and is now occupied; plans have been drawn, land secured, and work virtually commenced on the long-needed Southern Islands Hospital at Cebu; similar progress has been made toward one at Bontoc; a new dangerous communicable disease hospital and a modern steam laundry are actually under construction at San Lazaro; plans are in progress for a sanitarium at Sibul Springs; a tuberculosis camp is nearly ready for occupancy on the outskirts of Manila; and funds are available for hospitals at Tuguegarao, Butuan, and elsewhere.

In the work of health education a training school for male nurses has been established; the training school for female nurses heretofore under the Bureau of Education has been transferred to the Bureau of Health and its scope enlarged so as to embrace public instruction in the form of lectures, in the native dialects, on hygiene, sanitation, and elementary nursing; tuberculosis, beriberi, cholera, and other preventable diseases; care and feeding of infants, proper preparation of native foods, and other allied questions.

The issuance of a "Simple Remedies" Manual in five languages has been a laborious but gratifying feature of the year.

By an enormous expenditure of time, effort, and money, cholera has been held in check; smallpox has been further reduced by the continuation of vaccination; beriberi has been eliminated from Culion, and rice regulations enforced which it is hoped will exterminate it from the Islands, in time; the segregation of all known cases of leprosy has been successfully accomplished except in the Moro Province and the incidence of the disease has markedly decreased as a result. The fight against tuberculosis has been actively begun.

Food inspections have been continued with noticeable improvements in food stuffs; the markets of Manila now compare favorably with model markets elsewhere; many satisfactory provincial markets have been actually constructed and others projected.

The sanitary barrio idea is in effect in the city of Manila and much lowland has been drained and made available from a sanitary standpoint. Definite steps have been taken toward a nonpathogenic water supply for Manila.

On the whole it is believed that there is reason to feel encouraged over the general outlook, particularly in the establishment of hospitals and the work of health instruction which has thus far been seriously hampered by the work of combating preventable diseases throughout the Islands.

SCOPE OF BUREAU.

The scope of duties of the Bureau of Health for the Philippine Islands is far more extensive than is implied in its title and not only includes those responsibilities usually imposed on health organizations in the United States, such as the collection and compilation of vital statistics and the protection of the public from dangerous communicable diseases by practical and educational methods, but embraces the distribution of public charities, the care of the insane, the care of the orphans and the care of the aged, and the administration of general and special hospitals and the hygienic and medical care of all civil employees. Physicians of the Bureau of Health make all physical examinations for entrance into the public services and certify their findings to the Civil Service Bureau.

The Bureau is, in effect, the medical department of the Philippine Government and administers all official matters pertaining to the public health. It has sanitary supervision over factories, farms, and ships and in fact either by protest or advice it comes in contact with most of the projects and activities of the Archipelago. Thus it is one of the largest and most important Bureaus of the Government and like the health service of Panama is a powerful factor in determining and promoting the success of the American occupation of the Philippines, for no prosperity could be worthy of the name without the blessings of public health.

Each succeeding year brings increased responsibilities and additional duties to this Bureau but with multiplying facilities, especially with regard to transportation and road improvements, the task is made easier and far more pleasant.

THE MANILA WATER SUPPLY.

The Municipal Board has received many complaints during the past year on account of the character of the water which is supplied by the city mains. The public apparently feels that after the expenditure of over ₱4,000,000 the water coming from the city mains should leave little to be desired.

The Municipal Board has requested this office to aid in finding a remedy for the conditions complained of and the matter has been given considerable study but no satisfactory solution has as yet been reached. At first sight it would seem that nothing more is needed than a good filtration system, and the new storage basin designed by the chief engineer of the sewer and waterworks construction provides for the installation of filtration beds. The question is complicated here, however, by the fact that no filter of sufficient capacity has yet been found to filter the city water supply which will remove the amœbæ, consequently there arises not only the necessity of adopting a filtration plant which will do all that is required of a plant in the United States, but it will be necessary to eliminate the amœbæ in addition, because if only the ordinary filtration plant were installed that reduces the number of bacteria the water would still have to be sterilized before it was safe for drinking purposes. Experiments are constantly being made with the view of discovering a filter or other means by which amœbæ can be removed. The hypochlorite method as used by Dr. J. L. Leal for the Jersey City Water Supply Company of Boonton, New Jersey, is being tested by the Bureau of Science in order to ascertain its effect upon amœbæ.

This question is now being so largely studied in the United States and so many new methods are constantly being tried that it would seem advisable to make haste slowly with regard to adopting a filtration system.

FRESH MEAT SUPPLY OF MANILA.

During the year a new factor has entered the field to furnish the meat supply of Manila which has had a tendency to reduce the cost of this necessary commodity. Chilled meat is now being imported from Hongkong which is sold in the local markets in competition with the meat of locally slaughtered cattle. Some fear was expressed that this meat might come from diseased cattle and that adequate assurance should be had that the same has a proper ante-mortem inspection. By arrangements with the officers of the Public Health and Marine-Hospital Service reliable certificates to this effect are now assured and with the regular daily inspection which takes place in the markets of Manila the public may feel secure that a wholesome meat supply will be available. The city ordinances provide that fresh meat can be sold in the public markets only and the same rule will be applied to chilled meat so that the control of its sale will be a simple matter.

DEPARTMENT OF SANITATION AND TRANSPORTATION.

Owing to the new dumping stations provided in connection with the new sewer system the work of collecting the night soil and other excreta in the city of Manila has been rendered very much less objectionable and more efficient. Two of these stations have now been established, one near the central dumping station in Tondo and one near the Calle Herran pumping station. This latter is only a temporary site and the Municipal Board has agreed to remove the same at an early date to a neighborhood where it will be less objectionable.

GARBAGE RECEPTACLES.

A number of conferences have taken place during the past year with a view of ascertaining whether a garbage receptacle with a well-fitting lid could not be supplied to householders instead of permitting them to use the insanitary oil cans, boxes, and other things which are unsuitable for this purpose. The introduction of galvanized-iron receptacles has been tried a number of times but they have been so promptly stolen, in spite of the vigilant efforts of the police department, that considerable leniency has been shown in the enforcement of this ordinance.

Mr. John C. Mehan, chief of the department of sanitation and transportation, now has a type of receptacle of such design that identification will be simple so that loss by theft can be better prevented.

PLANTING OF TREES.

In view of the great desirability of providing shade and more particularly of making the new sanitary barrios attractive, arrangements have been made with the department of sanitation and transportation of the city of Manila to plant trees on all streets of these sanitary barrios.

STREET CLEANING.

The work of street cleaning is performed by the street-cleaning division of the department of sanitation and transportation and does not come within the duties of this Bureau, but its influence on the public health is such as to require mention in a report of this character. During the year the city has been visited by at least 2,000 tourists, 1,500 of whom were members of the two Clark parties. One of the first things noted by these observing travelers was the cleanly condition of the streets in comparison with other oriental cities and with many American cities. The question of substituting street flushing for street cleaning is still under consideration.

The condition of the streets of Manila would reflect credit on any city of equal size, anywhere, notwithstanding certain local conditions which make it more difficult to preserve cleanliness.

DISINFECTION.

The disinfecting service, thoroughly organized, is under the supervision of a former employee of the United States Public Health and Marine-Hospital Service.

This service not only disinfects houses in which dangerous communicable diseases have occurred, but all insanitary localities, such as drains, cesspools, latrines, and other foul places. It also disinfects stables in which have occurred cases of surra, glanders, rinderpest, foot-and-mouth disease, and other dangerous communicable veterinary affections. The steam-disinfecting plant at San Lazaro Hospital is used for the disinfection of clothing and bedding from the hospital and for such other articles in large quantities as can be safely and conveniently transported to the plant.

LOW DEATH RATE AMONG GOVERNMENT EMPLOYEES.

The death rate among Government employees for the year just closed is 5.82 per thousand. Even when a reasonable allowance is made for the lack of very old people and young children among such employees, and due consideration is given to the fact that this class of residents are for the most part preferred risks as it were, it will be found that the death rate is still lower than that of the civilian population of any other tropical country and there is every indication that if the simple, essential rules of hygiene were more closely observed, a smaller death rate would obtain.

LIFE INSURANCE RATES.

Heretofore the residents of the Philippine Islands who desired to take out life insurance were placed at a great financial disadvantage because many of the insurance companies charged higher rates for risks in the Tropics than in the United States or other temperate countries.

The vital statistics which have been compiled by the Bureau of Health during the past ten years have shown conclusively that the expectancy of life in the Philippines among those who would ordinarily take out life insurance is as good and perhaps even better than in the Temperate Zone. The publishing in the United States of the low mortality rates prevailing among the Philippine Government employees no doubt had much to do in drawing attention to this matter with the result that many companies now write insurance upon the same terms as elsewhere and others will no doubt soon follow.

DISTILLED WATER AND ICE.

The employees of the Insular Government and of the city of Manila are furnished with distilled water at a nominal charge. The water is taken from an artesian well 700 feet deep, after which it is distilled. Every precaution is taken to secure purity.

Service is made in any quantity desired either by measurement or in bottles which may be kept on ice.

There is also a private firm handling distilled water and serving the same in convenient-sized bottles. This firm has carried out every regulation of the Bureau of Health and the water supplied by them is safe.

PUBLIC BATH HOUSES AND LAUNDRIES.

In nearly every annual report of this Bureau since its organization the subject of the public bath houses and laundries has been discussed. There are two public bath houses and laundries under construction and it is hoped that the coming year will witness the beginning of a greater movement in this direction.

During epidemics of cholera, the frequency of the disease among laundresses and among others whose occupations bring them into contact with polluted water of the esteros and rivers is conclusive evidence that such places are a source of infection.

The recommendation is renewed that there be established a sufficient number of free public laundries in the city of Manila to meet the necessity, and that washing in the esteros and river be prohibited by the police. It is also recommended that free public bath houses be established and river and estero bathing be also stopped by police regulations.

PHARMACIES.

Four free municipal pharmacies are wholly maintained by this Bureau and supply medicines to the indigent population of the city upon prescriptions of municipal and other physicians. These dispensaries are located at San Lazaro Hospital, Philippine Medical School Clinic at St. Paul's Hospital, the Civil Hospital, and the central office. There are also free dispensaries which are partly maintained by this Bureau at the University Hospital, the Mary J. Johnston Memorial Hospital, and the San Juan de Dios Hospital.

A Chinese municipal physician is employed for the Chinese. His prescriptions are filled at any of the Bureau of Health dispensaries.

The Central Dispensary alone filled 25,272 prescriptions during the fiscal year.

PHILIPPINE GENERAL HOSPITAL.

The work of constructing the Philippine General Hospital has not yet been completed and a number of months must necessarily elapse before the buildings can be occupied. The equipment for the same has practically all arrived and will be ready to put into place as soon as the structural work is finished.

The last Legislature passed a law which made the Philippine General Hospital a division of the Bureau of Health and abolished the Civil Hospital as such, as soon as the Philippine General Hospital is opened; and authorized the Director of Health to request the services of any medical officer or employee in the Government service for duty in the hospital without additional compensation.

The hospital is one of the largest undertakings assumed by the Insular Government and is of so much importance that a complete description of it will be issued by this Bureau in pamphlet form and included with the next annual report.

HEALTH STATIONS IN MANILA.

The city of Manila is divided into five health districts the boundaries of which correspond to the five police precincts. Three of the health stations are quartered in the same buildings with police stations, one is at the central office, and one occupies a rented building. Each station has a force consisting of a medical inspector, one or more American sanitary inspectors, and a full corps of assistant sanitary inspectors. Attached to each health station there are one or more municipal physicians and midwives, the larger stations having two municipal physicians and two midwives, and the smaller stations but one of each.

Disinfectors are located at the central office (Station J) and at Meisic station (Station A).

Definite instructions relative to district health work have been issued covering all emergencies, so that the stations are able to meet any condition that may arise, without the delay that would necessarily be caused by the intervention of the central office.

MUNICIPAL SANITATION IN MANILA.

In the last annual report a résumé was given of a paper read before the Manila Medical Society under this heading, by Dr. A. J. McLaughlin, Assistant Director of Health. Among the subjects treated was the sanitary barrio or village, concerning which the following extract is submitted:

> The development of the idea of the sanitary barrio is largely the result of an effort to provide healthful building sites for that large proportion of the Philippine population, which from poverty or other reasons is compelled or chooses to live in typical nipa palm leaf houses common to the Islands.
>
> These houses, built entirely of nipa and bamboo and costing often less than ₱50 to build, are as a general rule unprovided with plumbing or drainage facilities of any sort, and have been the common type of house construction in the Philippines as well as in many oriental and tropical countries for many centuries. The floor of the house is about 1½ meters above the ground level. Waste water is discharged through slat floors directly upon the ground underneath the house where various domestic animals such as pigs and chickens form the scavengers. As a rule the house were built in small groups or barrios (villages) without reference to street lines or other avenues of approach.

This old system, in spite of its insanitary features has been more or less adhered to and tolerated in outlying sections and the interior of large blocks for generations. While considerable study had been given to the subject for many years past, it was not until the cholera outbreak of 1908 that a policy tending radically to change conditions then existing was outlined, and which has now through the efforts of the Bureau of Health been definitely adopted by the municipal authorities.

Sanitary barrios, as now being built, consist of a system of permanent street lines or city blocks laid out on the regular street plans of the municipality. These blocks are then divided into house lots. Every lot must face either on a street or an alleyway and only one house is permitted on a lot. The drainage instead of being collected in sinks and other plumbing fixtures and passed through the plumbing system to the street sewer as is customary in houses of strong material, is allowed to pass through the slat floor of the house to the ground surface, where it is caught in an open cement-lined apron, inclined toward a small cement-lined open canal which may be easily swept out and cleaned, and from this carried off the premises into larger street canals, also cement-lined and open for inspection and cleaning purposes, as well as for the purpose of permitting the purifying action of the sun and daylight to take place.

Another reason which has caused the development of the sanitary barrio by the Bureau of Health has been the low street mileage in proportion to the population. The table given shows the number of miles of street in the larger cities of the United States, and for Manila.

In this connection it should be remembered that the houses of Manila are, for the most part, open and admit the air freely thus supplying the offsetting factor of extra ventilation.

City.	Population.	Miles of streets.	Population to each mile of street.
Manila	234,409	95	2,467
Chicago	1,099,776	2,048	537
Philadelphia	1,047,410	1,151	910
New York and Brooklyn	2,321,580	1,228	1,890
St. Louis	450,925	1,061	425
Boston	448,392	408	1,099
Baltimore	434,460	780	557
Washington, D. C.	192,805	235	863
Los Angeles	50,400	800	63
New Orleans	241,873	625	387

From the above it will be seen that Manila has a population per mile of street largely in excess of any American city not even excepting New York which is notorious for its congested population and where residences, tenements, etc., are from five to ten stories in height. With these congested conditions, the Bureau found it useless to try to correct conditions until it had more ground on which to put ejected occupants of insanitary houses, as no improvement of conditions could be obtained by driving people out of one neighborhood only to have them drift into a worse one.

The San Lazaro Estate, owned by the Insular Government and administered by the Bureau of Lands, is now about completed as a sanitary barrio.

Begun in October, 1908, with an experimental appropriation of ₱5,000, the work has recently been completed at a total expenditure of ₱34,117.82. Forty-five blocks consisting of a total of 1,648 lots, with provisions for a population of 13,184 are in operation, street canals carrying house drainage, and public midden sheds caring for human excrement.

The complete status of sanitary barrio work on July 1, 1910, was as follows:

Location.	Number of blocks.	Number of lots and houses. (uninhabited lots excluded).	Population. (estimated at 8 to a house).	Remarks.
San Lazaro Estate:				
Government portion	45	1,648	13,184	Completed.
Church portion	33	1,241	9,928	Plans completed and work in progress. Will be finished about Dec. 31, 1910.
Legardo Estate	9	432	3,456	Plans completed and work in progress. To be completed about Sept. 1, 1910.
Vito Cruz	4	192	1,536	Land offered and plans in course of preparation.
Total	91	3,513	28,104	

In this way, the congested surplus population can be gradually cared for, the street mileage increased, and conditions in general improved.

It may be added that a fund of nearly ₱207,000 has only recently been made available for this purpose. Until this fund could be used, no work could be prosecuted. The results shown, therefore, with the exception of the drainage work of 1908, have been accomplished in the past two months, and in spite of the rainy season, which began about the 1st of June.

The ordinance making this fund available was passed April 18, 1910, and is as follows:

[Ordinance No. 138.]

AN ORDINANCE MAKING APPROPRIATION OF FUNDS FOR EXPENDITURE IN MAKING SANITARY IMPROVEMENTS IN THE CITY OF MANILA.

Be it ordained by the Municipal Board of the city of Manila, that:

Section 1. The sum of two hundred and six thousand seven hundred eighty-four pesos and seventy-seven centavos, credited to the city of Manila in accordance with the provisions of Act Numbered Seventeen hundred and fifty is hereby appropriated out of such funds of the city of Manila and made available for expenditure for making sanitary improvements in the city of Manila, in accordance with the general scheme outlined by the Director of Health and the city engineer, as approved by the Municipal Board January third, nineteen hundred and ten, and by the Governor-General January twenty-first, nineteen hundred and ten, as appears from the records on file in the office of the secretary, Municipal Board.

Interior and indiscriminate barrio construction has now been definitely discontinued by an ordinance of the Municipal Board passed at the request of the Bureau of Health. From the date of the passage of the ordinance all new houses must abut on some form of street, either public or private. The ordinance reads as follows:

[Ordinance No. 124.]

AN ORDINANCE AMENDING SECTION ONE HUNDRED AND SEVEN OF THE REVISED ORDINANCES OF MANILA ENACTED JUNE THIRTEENTH, NINETEEN HUNDRED AND EIGHT, RELATING TO THE ISSUANCE OF PERMITS FOR THE ERECTION OF THE BUILDINGS.

Be it resolved by the Municipal Board of the city of Manila that:

Section 1. Section one hundred and seven of the Revised Ordinances of Manila is hereby amended to read as follows:

"SEC. 107. *Issuance of permits.*—When the application, plans, and specifications, conform, to the requirements of the title and of title eleven hereof, the engineer shall issue a permit for the erection of the building and shall approve such plans and specifications in writing: *Provided,* That the building shall about or face upon a public street or alley or on a private street or alley which has been officially approved. One copy of all approved plans and specifications shall be returned to the owner or his agent, and one copy shall be retained by the engineer."

TENEMENT AND LODGING HOUSES.

Owing to the fact that many of the more thickly populated sections of the city are becoming more and more overcrowded, and that many of the tenement and lodging houses harbor more people than are permitted by the municipal ordinances, and since the propagation of tuberculosis and other diseases is greatly favored thereby, an active campaign to relieve this condition of affairs was commenced during the year; and, as was to be expected, active opposition was immediately encountered. This opposition in most instances seemed to be due to the fact that a reduction in the incomes of the landlords was apprehended. Many legal technicalities have been placed in the way of the Bureau, and until these obstructions are removed the work must necessarily proceed slowly.

MUNICIPAL HEALTH SERVICE IN THE PROVINCES.

Much additional evidence has become available showing the inherent weakness of the municipal health service and the unsatisfactory results that are obtained in the majority of instances. In some municipalities excellent results are obtained when everything is favorable, but it must be frankly admitted that the service in the vast majority of municipalities is not all that could be desired.

In order to remedy this condition a new plan has been tried in Pampanga Province which so far has met with considerable success and is a great improvement. Through the activity of the treasurer of

Pampanga Province and the members of the provincial board, Pampanga has been divided into six sanitary districts, each of these is placed in charge of a licentiate of medicine and under him is placed a sanitary inspector for each municipality in his district, there being twenty municipalities in the province. Each municipality contributes a certain sum of money equal to 10 per cent of the taxes collected, which in the case of the municipalities of Pampanga amounted to about ₱16,000. The province contributed ₱8,000, making a total of about ₱24,000. This money was placed in the provincial treasury and is disbursed under the approval of the provincial board. The province agrees to furnish all the medical service that will be required by the several districts. The appropriation both by the municipalities and the province is on a basis of 10 per cent of the taxes collected. The keystone of the plan is that the entire health service shall be under central control and that the entire force may be utilized at points which are threatened with infection. If one town were actually suffering with cholera it would be obviously more advantageous for the remaining municipalities to concentrate their forces upon exterminating the disease in that town rather than to take measures to combat it when it appeared in their municipalities. Instead of each municipality keeping a large stock of disinfectants and other epidemic supplies on hand these are all concentrated in a central storeroom and can be quickly used wherever they may be needed. On the whole this plan has worked very well with the exception that some of the municipalities believing that they did not receive an adequate return for their money threatened to withdraw. This caused considerable embarrassment and nearly upset the whole scheme.

It is obvious that before improved results can be obtained in the municipal health service more direct central control must be provided.

PROVINCIAL SANITARY REPORTS AND STATISTICS.

Presidents of municipal boards of health, and where there are no such officers, municipal secretaries, submit quarterly health reports to their district health officers who compile the statistics and render district health reports to this office. This system has been in operation for several years but as most of the presidents of municipal boards of health do not realize the importance of accuracy and are not acquainted with the true nature and purpose of sanitary statistics, it has not been deemed advisable except in a few instances to publish the data. The statistics, however, are classified and tabulated and are made the subject of correspondence with the purpose of establishing, by gradually introduced educational methods, a system of municipal sanitary reports that will be of value.

A few of the provinces issue special health bulletins in addition to rendering the prescribed reports.

THE MORO PROVINCE.

The jurisdiction over health matters during the year has been exclusively exercised by the Moro Province and no report of the health conditions has been received by this office. During the year cholera was conveyed from the northern part of Mindanao to Bohol, and caused an outbreak which was difficult to control.

The rough draft of the proposed health law for the Moro Province which was submitted to the Commission last year through the honorable the Secretary of the Interior has not yet been voted upon.

NEW CENSUS.

During the beginning of the calendar year it was deemed advisable to have another census of the city of Manila taken in order that the basis for statistical data might be more accurate. This census was completed during February. It showed that the total population of the city was 234,409 as against 223,542 of the census of 1907. The following table will give the increase and decrease that has taken place among the different nationalities:

Nationality.	1907	1910	Increase.	Decrease.
Americans	5,199	4,174		1,025
Filpinos	195,292	211,859	16,567	
Spaniards	2,903	2,364		539
Other Europeans	977	644		333
Chinese	18,028	14,093		3,935
All others	1,143	1,275	132	
Total	223,542	234,409	16,699	5,832

It will be observed from the foregoing table that there has been a notable decrease among the Caucasian and Chinese population and an increase among the Filipinos. The honorable the Secretary of the Interior has authorized the use of the new census and it will hereafter be employed in calculating the mortality and morbidity rates in the city of Manila.

MEDICAL EXAMINATION OF IMMIGRANTS.

During the year 9,506 immigrants were examined. The number of rejections was 57, all due to trachoma.

A Chinese opera company, composed of 78 individuals, was given temporary permission by the Bureau of Customs to enter the Philippine Islands for the purpose of supplying one of the attractions of the Philippine Carnival after which they were to return to China promptly; but, as has been the experience with former Chinese opera companies, delays occurred, and at the close of the year this opera company is still in Manila, causing this Bureau no end of trouble by their insanitary habits and their filthy manner of living.

PHYSICAL EXAMINATIONS.

The medical examination required of applicants for the Philippine civil service is conducted by the Bureau of Health.

During the year 590 persons were examined at the Bureau of Health, of whom 583 were passed, or 98.8 per cent of the total number examined. The high percentage passed is partially explained by the fact that all applicants are weighed and measured for height and when they found they would not pass they did not wait for further examination or registration. This eliminated about thirty-six applicants that would otherwise have been rejected. This is evidenced by the fact that only one rejection was for under weight or height.

The following tables show the number of persons examined and the result of such examination, also the cause for rejections:

Position.	Passed.	Rejected.	Total.
First-class patrolman, American	102	0	102
First-class prison guard	25	0	25
First-class fireman, American	48	0	48
Second-class prison guard	32	0	32
Second-class fireman	28	0	28
Third-class patrolman	81	6	87
Third-grade	45	1	46
Third-grade apprentice	149	0	149
Messenger	0	0	0
Second grade	27	0	27
Inspector, auxiliary	0	0	0
Machinist	0	0	0
Mate:			
Filipino	2	0	2
American	0	0	0
Building inspector:			
American	0	0	0
Filipino	2	0	2
Foreman	0	0	0
Insular	52	0	52
Total	583	7	590

Cause for rejection.

Poor vision	3
Myopia and endocarditis	1
Under weight	1
Organic heart disease	2
Total	7

The quarantine office, which is conducted by the officers of the United States Public Health and Marine-Hospital Service, made physical examinations of 113 persons desiring to enter the merchant marine; of this number 78 were passed or about 69 per cent of the total number of persons examined.

At the last session of the Philippine Legislature Act No. 1980 was passed in which the regular enlistment of officers and men in the Bureau of Navigation was provided for. For entrance to this service a rigid physical examination will be required.

QUARANTINE.

Insular maritime quarantine is imposed through local, provincial, and municipal health officials by order of the Director of Health when necessary. At ports of entry it is exercised by the United States quarantine officers. Maritime quarantine is rarely imposed except at ports of entry since in nearly all cases it is practicable to order vessels to quarantine stations.

It has not been necessary to require detention of vessels during the past year, as there have been no serious epidemics.

The imposition of land quarantine has been almost entirely abandoned as it was ineffectual. In certain cases as where the only entrance to a community is by a single trail it is useful.

Local house quarantine is carried out when advisable and is the only discretionary quarantine permitted to be exercised by the local authorities.

As a policy, the tendency on the part of the local officials to impose quarantine has been checked.

HABIT-FORMING AGENTS.

During the past few years, the medical profession, State boards of health, pharmacy boards and others interested in the public welfare have opposed the indiscriminate sale of habit-forming nostrums placed on the market under various names, purporting to be consumption cures, soothing sirups, and even drug-addiction treatments. Notwithstanding the fact that legislation, Federal, State, and Territorial, adverse to the unregulated sale and use of harmful drugs, has been enacted during the past decade, the consumption of opium in the United States per capita has increased.

The effect of the new food and drugs law has been beneficial and the present decade will undoubtedly show a decrease in the use of this drug. The ruling which permits general sale of certain preparations containing less than 2 grains of opium to the ounce is not without danger as it is possible to lay the foundation for drug addictions through the use of insidious, habit-forming preparations.

The exploiting of so-called consumption cures has apparently always been an inviting field for quacks, and during the last few years, since there has been a general awakened interest in this disease, the principle of graft has been more evident than ever among this class.

The Filipino people are too prone to believe what they see in print and expend thousands of dollars for advertised cures. The conditions are better here than in the United States, due largely to the strict enforcement of the law, but, later, additional measures will be necessary especially such as will educate the public through the press and by pamphlets, lectures, and cinematographs.

The Secretary of Agriculture of the United States has issued a circular of information, designated as Farmers' Bulletin 393, prepared by the chief of the division of drugs of the Bureau of Chemistry. Something along similar lines printed in the principal dialects of the country may be indicated for the Philippines at no remote date.

ADMINISTRATION OF THE FOOD AND DRUGS ACT.

During the fiscal year which corresponds to the third year of the enforcement of the Food and Drugs Act, 571 samples of food and drugs were examined under the provisions of the Act. Three hundred and sixteen were found to be neither adulterated nor misbranded; 215 were found to be either adulterated or misbranded, and of these 59 were either prohibited from entry or their sale forbidden.

Seventy-five per cent of the rejections were because of the use of boron as a preservative; the use of boron as a preservative in food products has been declared to be deleterious and the use of deleterious substances is prohibited under the Food and Drugs Act.

Summary of food and drug inspections.

Article.	Total.	Number of—	
		Adulterations and misbrandings.	Rejections.
Butter	20	4	4
Cheese	20	2	0
Fish:			
Canned	129	75	20
Dried	17	5	5
Fruits, preserved	12	4	0
Fruit juice	21	11	3
Ham and bacon	15	1	1
Jam	8	2	0
Lard	18	0	0
Meats, canned	29	16	11
Medicines and drugs	85	48	5
Milks, canned	37	19	0
Mineral waters	21	0	0
Olive oil	14	8	0
Oleomargarine	5	4	2
Sauces and condiments	10	3	1
Sausages	10	6	0
Vegetables, canned	66	29	1
Wines	15	8	4
Miscellaneous	29	15	2
Total	571	255	59

STEADY INCREASE IN THE USE OF MILK.

The importations of milk have shown a steady increase since 1903, and the increased use of milk can scarcely help but have an important influence upon the public health and more particularly in reducing the infant mortality by substituting a wholesome, assimilable food for the solid food which is so frequently used.

The following table, furnished by the Insular Collector of Customs, will be of interest:

Importations of milk.

Year.	Condensed.		Fresh.	
	Quantity.	Value.	Quantity.	Value.
	Pounds.		*Gallons.*	
1903	3,070,038	$247,366	----------	----------
1904	3,233,052	251,261	8,804	$2,494
1905	3,018,276	233,667	8,587	3,778
1906	3,776,761	284,495	34,879	11,428
1907	3,646,264	289,789	69,080	27,435
1908	4,147,413	349,307	81,669	36,627
1909	4,752,733	406,607	113,397	47,233
Total	25,644,537	2,062,492	316,816	128,995

OFFENSIVE AND DANGEROUS OCCUPATIONS.

Offensive and dangerous trades are a necessity but the safety of the public demands that such occupations be regulated by stringent laws.

The ordinances of Manila and other large municipalities prohibit the establishment of any business of a highly offensive or dangerous nature within the limits of their respective municipalities or the establishment of less dangerous and offensive business within the district of strong materials, and prescribe that such business shall be conducted in a sanitary manner.

In the city of Manila, the more offensive places have been forced out of the city and come within the ordinance regulations of adjacent municipalities.

HEALTH PUBLICATIONS.

The Bureau of Health has published its regular quarterly and annual reports; a manual of 265 pages, containing the essential rules of official procedure and many general instructions for the guidance of its employees; Health Bulletin No. 8, entitled "Instructions for Simple-Remedy Packages"—a more detailed description of it is given elsewhere in this report; a collection of the food and drugs laws of the United States; and various minor publications.

A committee has been appointed to make the preliminary draft of the proposed provincial sanitary code which it is hoped will be ready for consideration by the Philippine Legislature before the time for submitting the next annual report.

The Manual of the Bureau of Health was issued during the year and has been of the greatest aid in rendering the administration of the Bureau more effective. It has been directly responsible for greatly reducing the amount of correspondence and it has enabled employees in the Bureau of Health to carry out instructions with much more promptness.

SIMPLE REMEDIES FOR THE INDIGENT POOR OF THE PROVINCES.

A great extension of the service furnished the indigent poor throughout the provinces has been brought about by the remedies being carefully selected and accompanied with simple instructions so that they may be used by any intelligent layman for the relief of suffering.

In order to meet the needs of this service, packages have been prepared in three different sizes, in addition to those which are furnished gratis by this Bureau, and large numbers are purchased by private individuals and others and also used for free distribution. Two hundred and fifty-six simple-remedy packages were prepared in the property division of the Bureau of Health under the supervision of Pharmacist Saleeby, of the Civil Hospital division.

SIMPLE-REMEDIES PACKAGES.

An investigation extending over the past few years of the drug supplies carried in the municipal building of the average municipalities showed that, as a rule, the drugs were most unsuitable for the purpose for which they were intended and in many instances no persons were found who were competent to make the proper use of them. In view of the great danger which many of the powerful drugs might be in the hands of those unaccustomed to their use it was deemed advisable to recommend to His Excellency the Governor-General that the purchase of drugs by municipalities which did not have a competent physician to prescribe them should be prohibited and in their place a simple-remedies package substituted. In order to make these remedies much more valuable a simple book of instructions (Health Bulletin No. 8) has been prepared and translated into Spanish, Tagalog, Visayan, Ilocano and several other dialects, giving directions in plain language as to how all ordinary conditions encountered should be treated. A copy of this Bulletin is sent with each package of medicine or it may be had upon application.

The packages contain the following:

SIMPLE-REMEDIES PACKAGE NO. 1.

Absorbent cotton	grams	500
Adhesive plaster, 5 meter 1.27 centimeters	spool	1
Bandages, cotton, 7.62 centimeters		12
Bandages, gauze, 2.54 centimeters and 5.08 centimeters		24
Medicine droppers		2
Boric-acid powder (in bottle)	grams	100
Calomel tablets, 0.03 gram		100
Camphorated oil	cubic centimeters	250
Carbolated vaseline	grams	250
Castor oil	cubic centimeters	500
Compound cathartic pills		100
Cough tablets		100

SIMPLE-REMEDIES PACKAGE NO. 1—continued.

Diarrhea and dysentery tablets		100
Epsom salts	kilos	2
Headache tablets, 0.3 gram		100
Iron, quinine, and strychnine tablets		100
Liquid cresolis compound (lysol)	cubic centimeters	500
Quinine tablets, 0.2 gram		1,000
Rhinitis tablets		100
Soda bicarbonate	grams	250
Spirit of peppermint	cubic centimeters	100
Sweet spirit of niter	do	100
Tincture benzoin compound (Friar's balsam)	do	100
Tincture of iodine (G. S.)	do	30
Toothache drops	bottle	1

SIMPLE-REMEDIES PACKAGE NO. 2.

Absorbent cotton	grams	250
Adhesive plaster, 1 meter 1.27 centimeters	spool	1
Bandages, assorted, 5.08 centimeters and 6.72 centimeters		12
Medicine dropper		1
Boric-acid powder	grams	50
Calomel tablets 0.03 gram		50
Camphorated oil	cubic centimeters	100
Carbolated vaseline	gram	100
Compound cathartic pills		50
Cough tablets		50
Diarrhea and dysentery tablets		50
Epsom salts	grams	500
Headache tablets, 0.3 gram		50
Iron, quinine, and strychnine tablets		50
Liquid cresolis compound (lysol)	cubic centimeters	250
Quinine tablets, 0.2 gram		200
Rhinitis tablets		50
Soda bicarbonate	grams	150
Spirit of peppermint	cubic centimeters	60
Toothache drops	bottle	1

SIMPLE REMEDIES PACKAGE NO. 3.

Adhesive plaster	piece	1
Bandage, 5.08 centimeters wide		1
Boric-acid powder	grams	25
Compound cathartic pills (in bottle)		25
Diarrhea and dysentery tablets		25
Headache tablets, 0.3 gram		25
Quinine tablets, 0.2 gram		25
Rhinitis tablets		25
Soda bicarbonate	grams	25

MINERAL SPRINGS.

With a view to having as much reliable data as possible available with regard to mineral springs and other springs to which medicinal properties are ascribed in the Philippine Islands, a number of places were visited and samples taken.

A spring located near Tanay, Rizal, has long been reported as having medicinal properties and being particularly valuable for the treatment of tuberculosis. A sample from this spring was sent to the Bureau of Science, and a chemical analysis, as shown by the following, was made:

Physical characters: Good.

Free or saline ammonia	0.0058
Organic or albuminoid ammonia	0.0265
Oxygen consumed	Nil.
Chlorine	2.32
Nitrogen as nitrates	0.0946
Nitrogen as nitrites	Trace.
Silica (SiO_2)	103.73
Sulphuric acid radicle (SO_4)	2.807
Bicarbonic acid radicle (HCO_3)	175.68
Nitric acid radicle (NO_3)	0.419
Nitrous acid radicle (NO_2)	Trace.
Phosphoric acid radicle (PO_4)	1.209
Metaboric acid radicle (BO_2)	Nil.
Arsenic acid radicle (AsO_4)	Nil.
Chlorine (Cl)	2.32
Bromine (Br)	Nil.
Iodine (I)	Nil.
Iron (Fe)	Trace.
Alumina (Al_2O_3)	Trace.
Calcium (Ca)	34.069
Magnesium (Mn)	10.646
Potassium (K)	3.49
Sodium (Na)	16.28

The biological examination showed no amœbæ or other pathogenic organisms.

The Galas Spring, located in Laguna de Bay, has from Spanish times enjoyed a reputation for being particularly valuable in specific diseases, tuberculosis, and various forms of skin eruptions.

This spring is located on the east coast of the Jala-Jala peninsula, in Laguna Province, and is approximately 7 kilometers south of Mabitac and 10 kilometers north of Santa Cruz, at the base of a hogback which has on either side of it a large, open plain. The spring was visited on February 27, 1910, and was found to have two openings, one of which is in a swamp and is completely abandoned, and the other is in very bad condition. The remains of three stone bath tubs were found near the latter opening, and some evidence remains of a house which stood in Spanish times. More detailed information in regard to the spring may be found in a report filed in the division of archives of the Executive Bureau, which was made by the Spanish Commission in 1885.

A chemical analysis by the Bureau of Science of this water revealed the following:

Total solids	880.4
Free or saline ammonia	.3281
Organic or albuminoid ammonia	.1591
Oxygen consumed	.8
Silica (SiO_2)	93.0
Sulphuric acid radicle (SO_4)	22.25
Bicarbonic acid radicle (HCO_3)	318.89
Carbonic acid radicle (CO_3)	Nil.
Nitric acid radicle (NO_3)	Nil.
Nitrous acid radicle (NO_2)	Nil.
Phosphoric acid radicle (PO_4)	Nil.
Metaboric acid radicle (BO_2)	Trace.
Arsenic acid radicle (AsO_4)	None.
Chlorine (Cl)	355.6
Bromine (Br)	None.
Iodine (I)	None.
Iron and aluminum oxides (Fe and Al)	1.8
Manganese (Mn) as tetroxide	.5
Calcium (Ca)	81.43
Magnesium (Mg)	32.97
Potassium (K)	19.13
Sodium (Na)	207.06
Lithium (Li)	None.
Ammonium (NH_4)	.422
Sulphuretted Hydrogen (H_2S)	Trace.
Barium (Ba)	None.
Strontium (Sr)	None.
Specific gravity at 4° C	1000.678

The following is a copy of the analysis which was reported by the Spanish Commission in 1885:

Indicaciones terapeuticas. Clima conveniente á las personas débiles, nerviosas y valetudinarias.

Caracteres Físico-Químico del Agua. Clara, transparente, incolora, de olor y saber hepáticos.

Reacción neutra en los papeles reactivos.

Desprendimiento abundante de burbujas gaseosas.

Temperatura del agua, 32 á 35 C. (La ambiente, 26, C.)

Oscilaciones de temperatura—perceptibles dentro de los límites citados.

Densidad, corregida á O C. y á 760 milímetros de presión—1,005,172.

Resultado inmediato del Analisis. Las susbtancias anhidras dosificadas en un litro del agua mineral, fueron:

	Gramos.
Acido sulfhidrico libre	0.008680
Acido carbónico, total	0.324600
Oxido cálcico en el sedimento que se forma por ebullición	0.063168
Oxido magnésico en el sedimento que se forma por ebullición	0.036973
Oxido calico en el agua hervida y filtrada	0.006496
Oxido magnésico en el agua hervida y filitrada	0.001903
Acido salicico	0.072000
Cloro	0.232543
Acido sulfúrico	0.025064
Oxido sódico	0.0212899
Amoniaco	Indicios.

El residuo fijo obtenido por la evaporación directa de un litro del agua mineral, y desecado á 180 C. próximamente, peso—0.688000

Resultado analítico definitivo, deducido por el cálculo. Un litro del agua mineral, á 33 C., contiene en disolución:

Ácido carbónico libre	(73.923559 cc.)	0.145979
Ácido sulfhídrico	(3.672161 cc.)	0.005680
Oxígeno	(5.503243 cc.)	0.007868
Nitrógeno	(11.792984 cc.)	0.014813
Bicarbonato cálcico		0.162432
Bicarbonato magnésico		0.116330
Sulfato cálcico		0.015776
Sulfato sódico		0.028017
Cloruro magnésico		0.004457
Cloruro sódico		0.378676
Cloruro amónico		Indicios.
Ácido silícico		0.072000
Total de substancias mineralizadoras (anhidras)		0.952028

Clasificación. Aguas hipotermales, sulfhídricas, cloruradas sódicas.

Comprobación del resultado del análisis.

		Gramos.
Total de substancias mineralizadoras por litro, según el cuadro anterior		0.952028
Ácido sulfhídrico libre	0.005680	0.263650
Oxígeno	0.007868	
Nitrógeno	0.014813	
Ácido carbónico libre	0.145979	
Ácido carbónico formando sal ácida con carbonato cálcico	0.049632	
Ácido carbónico formando sal ácida con carbonato magnésico	0.039678	
Diferencia correspondiente á la cantidad teórica de substancias fijas por litro		0.688378
Substancias fijas por litro determinadas experimentalmente		0.688000
Diferencia despreciable		0.000378

The biological examination made at the Bureau of Science showed no amœbæ or other pathogenic organisms.

A sample of water was also received from Malboc, Gasan, Boac, Marinduque, which was taken from a hot spring which had a considerable local reputation as being valuable in skin diseases and digestive troubles. The result of the chemical analysis was as follows:

Physical characters: Brownish with suspended matter and HS odor.
Reaction: Neutral to litmus.
Total solids, 1,173.4.

Free or saline ammonia	**3.924**
Organic or albuminoid ammonia	**0.9177**
Oxygen consumed	**5.17**
Chlorine	**113.77**
Nitrogen as nitrates	**Nil.**
Nitrogen as nitrites	**Nil.**
Silica (SiO_2)	**88.15**
Sulphuric acid radicle (SO_4)	**65.425**
Bicarbonic acid radicle (HCO_3)	**928.326**
Carbonic acid radicle (CO_3)	**Nil.**
Nitric acid radicle (NO_3)	**Nil.**
Nitrous acid radicle (NO_2)	**Nil.**
Phosphoric acid radicle (PO_4)	**6.4661**
Metaboric acid radicle (BO_2)	**Little.**
Arsenic acid radicle (AsO_4)	**Trace.**
Bromine (Br)	**Nil.**
Iodine (I)	**Nil.**
Iron and aluminum (Fe and Al) oxides	**13.5**
Manganese (Mn)	**1.98**
Calcium (Ca)	**227.3**
Magnesium (Mg)	**46.21**
Potassium (K)	**0.52**
Sodium (Na)	**161.00**
Lithium (Li)	**0.731**
Barium (Ba)	**Nil.**
Strontium (Sr)	**Nil.**
Specific gravity	**1,001.3702**

The biological examination showed no amœbæ or other pathogenic organisms.

In the report of the Bureau of Health for the fiscal year ended June 30, 1908, was given a report of the analysis of the water in the Sibul Springs. With a view to having analysis of all mineral springs in the Islands made upon the same standard, the following was the analysis recently supplied by the Bureau of Science with regard to this spring:

Reaction: Neutral.

Total solids	**510.33**
(a) fixed	**475.20**
(b) volatile	**35.13**
Free or saline ammonia	**.0072**
Organic or albuminoid ammonia	**.0278**
Oxygen consumed	**.5**

Nitrogen as nitrates	Nil.
Nitrogen as nitrites	Trace.
Silica (SiO_2)	42.53
Sulphuric acid radicle (SO_4)	3.33
Bicarbonic acid radicle (HCO_3)	509.42
Carbonic acid radicle (CO_3)	Nil.
Nitric acid radicle (NO_3)	Nil.
Nitrous acid radicle (NO_2)	Trace.
Phosphoric acid radicle (PO_4)	Nil.
Metaboric acid radicle (BO_2)	Nil.
Arsenic acid radicle (AsO_4)	Nil.
Chlorine (Cl)	24.76
Bromine (Br)	Nil.
Iodine (I)	Nil.
Manganese (Mn)	Nil.
Iron and aluminum (Fe and Al) oxides	0.57
Calcium (Ca)	148.53
Magnesium (Mg)	15.23
Potassium (K)	1.166
Sodium (Na)	23.023
Lithium (Li)	Trace.
Ammonium (NH_4)	.0092
Sulphuretted hydrogen (H_2S)	1.78

Carbon dioxide (CO_2) free, 52.96 c. c. N. P. T. per liter.

SIBUL SPRINGS.

With a view to making the medicinal properties of the water from Sibul Springs available for a larger number of persons an inspection was made to determine the advisability of constructing a sanitarium at that point. As private capital did not seem to be inclined to undertake this project a recommendation was made to the last Legislature for an appropriation to construct a suitable building at Sibul. This recommendation was favorably acted upon and Act No. 1981 appropriating the sum of ₱50,000, in addition to an unexpended balance authorized by Act No. 1954, was passed at the last session of the Legislature. The plans are now in the course of preparation for the construction of a modern sanitarium and steps have already been taken to commence the sanitary bottling of the water at Sibul Springs so that the same may be purchased in the drug stores of Manila.

ARTESIAN WELLS.

The progress made in the installation of artesian wells has been most gratifying. The Bureau of Public Works reports that for the fiscal year just ended 82 new wells were installed. Since the boring of artesian wells was first commenced in the Islands during 1906, 189 wells have been completed from which it will be noted that 43.39 per cent of the total number were sunk during the fiscal year.

The Legislature is constantly augmenting the appropriations for this purpose and for the fiscal year 1911 has voted ₱300,000 as against

₱105,000 for last year. There is a widespread interest throughout the Philippines with regard to artesian wells as can be testified to by members of the Assembly who are burdened by numerous petitions and voluminous correspondence from their constituents with regard to local wants.

The following table will show by provinces the municipalities in which wells have been bored:

Province and municipality.	Wells bored.
Ambos Camarines:	
Baao	6
Bato	3
Buli	4
Calabanga	4
Camaligan	2
Magarao	2
Milaor	2
Minalbac	1
Nabua	1
Nueva Caceres	3
Pili	1
San Fernando	2
Total	31
Batangas:	
Balayan	3
Banau	1
Batangas	1
Calaca	1
Lemery	2
Taal	1
Tuy	1
Total	10
Bohol:	
Anda	3
Candijay	1
Cogton	2
Getafe	1
Guindulman	2
Mabini	1
Tagbilaran	1
Talibon	3
Ubay	1
Total	15
Bulacan:	
Bigaa	1
Bocaue	1
Bulacan	1
Calumpit	1
Guiguinto	1
Malolos	2
Marilao	1
Meycauayan	1
Obando	1
Polo	1
Total	11
Capiz, Capiz	4
Cavite:	
Cauit	2
Cavite	3
Imus	1
Naic	8
Novaleta	2
Total	16
Cebu, Cebu	17
Ilocos Sur, Vigan	2
Iloilo:	
Iloilo	3
Jaro	1
Iloilo—Continued.	
Santa Barbara	1
Total	5
La Laguna, Santa Cruz	2
Leyte:	
Baruga	2
Carigara	5
Tacloban	1
Total	8
Manila, Manila	3
Mindoro, Calapan	1
Negros Occidental:	
Bacolod	2
Escalante	1
Total	3
Negros Oriental, Dumaguete	3
Nueva Ecija, Gapan	2
Palawan, Puerta Princesa	1
Pampanga:	
Bacolor	1
Guagua	2
Lubao	1
Macabebe	1
Mexico	1
Minalin	1
San Fernando	2
Santa Teresa	2
Santo Tomas	1
Total	12
Pangasinan:	
Bautista	1
Binalouan	2
Calasiao	1
Dagupan	3
Lingayen	1
Manaoag	1
Mangaldan	1
Pozorrubio	5
San Carlos	1
San Jacinto	1
Total	17
Rizal:	
Alabang	2
Caloocan	1
Malabon	1
Mariquina	7
Montalbon	3
Navotas	1
Parañaque	1
Pasay	2
Pasig	2
San Mateo	5
Total	25
Tayabas, Lucena	1
Grand total	189

In addition to the foregoing wells, many provinces and municipalities have purchased well-boring rigs of their own and constructed wells which are in active use. The exact number of wells bored in this manner is not known at the present time.

Attention is invited to the inclosed circular issued by the Executive Bureau regarding the proper care and maintenance of artesian wells and pumps, and sent out to all provincial boards.

CIRCULAR.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS,
EXECUTIVE BUREAU,
Manila, December 11, 1909.

The attention of this office has been drawn to the unsatisfactory conditions which prevail in regard to the care and maintenance of artesian wells and pumps; that in many cases there is no provision for maintenance; and that pumps now installed are apt to be unserviceable for considerable portion of time owing to the lack of small repairs which nobody considers it his duty to make and for which no funds are provided.

These wells are public property and after being finished become (*a*) property of the provincial government if placed on land owned by the province; (*b*) municipal property if located on municipal property, parks, streets, and plazas, and provision should and *must* be made for their proper use, care, and maintenance.

Provincial boards are directed to bring to the attention of the president and council the contents of this circular in all municipalities where artesian wells have been placed by the Government, and require them to make provision in their annual estimate each year for funds sufficient to properly maintain the pumps on all artesian wells in the municipality. It has been estimated that ₱75 should be thus set aside and made available for each pump.

A standard type of pump will be adopted and a good supply of spare parts will always be kept on hand by the Bureau of Public Works or the Bureau of Supply. A pamphlet of instructions as to the care of the pump, explaining its mechanism and the method of making small repairs, will be issued by the Bureau of Public Works so that minor repairs may be made locally, and where the damage is such as will require the services of an expert, or immediate repairs can not be made locally, the municipal president shall immediately report the matter to the district engineer through the provincial board, and request that the repairs be made by the Bureau of Public Works.

The Governor-General will hold strictly responsible all municipal officials who allow their artesian wells or pumps to become unserviceable through lack of proper care and maintenance.

Any municipal president who allows any artesian well or pump in his municipality to suffer damage for lack of proper supervision as to its use, lack of timely and adequate repairs, or failure to make report, through the provincial board to the district engineer, or any serious damage to any artesian well or pump in his municipality, which can not be speedily repaired locally, for a period of more than forty-eight hours after said damage shall have occurred, will be subject to disciplinary correction for neglect of duty.

For the purpose of being kept well informed of the condition of artesian wells and pumps throughout the province, it is suggested that the board require all

traveling deputies of the provincial treasurer to make a written report to the board of the condition of each well and pump in each municipality that he visits; the board will then take prompt measures to correct any neglect on the part of municipal officials in case of failure to properly care for the wells and pumps in their municipality.

Very respectfully,

WM. T. NOLTING, *Special Agent.*

SANITARY ANALYSIS OF WATER.

The Bureau of Science has examined bacteriologically and chemically many samples of water both from Manila and the provinces.

The provincial examinations have pertained largely to the artesian wells. Reports have been submitted on each sample analyzed and in many cases this office has written advisory letters.

Water from the public houses such as hotels, bars, and other places, which are frequented by any considerable number of people, is frequently examined, and if it is not up to standard, a reasonable time is given to correct the defects which if not done is considered sufficient ground for closing the place until the requirements of the law are fulfilled.

SANITARY SEWERS OF THE CITY OF MANILA.

The sanitary sewer system which was completed by the city of Manila at a cost of approximately ₱4,000,000 has now been in operation and available for service in a greater portion of the city for a period of one year. The number of houses that have been connected with the sewer is still small but the work is now in progress as may be observed in the following list of connections reported completed by the city engineer's office:

Sanitary sewers installed during last fiscal year.

July, 1909	25	January, 1910	54
August, 1909	27	February, 1910	41
September, 1909	56	March, 1910	50
October, 1909	28	April, 1910	53
November, 1909	49	May, 1910	61
December, 1909	30	June, 1910	42

The total number is 516 to which should be added six connections made during the month of June, 1909, thus making 522 completed sanitary sewer connections at the close of the fiscal year. The work is being pushed as rapidly as possible and many orders are pending.

The following sanitary sewers have been constructed during the fiscal year ending June 30, 1910:

Months.	Length	Location.	Size.
	Meters.		*Inches.*
July, 1909	86	Divisoria	8
	168.4	Georgia	8
August, 1909	58.7	Soledad, Binondo	8
September, 1909	38.56	Florida	15
	32	Azcarraga, disposal station	15
October, 1909	47.9	Estrella, Binondo	6
	47.6	Esperanza, Santa Cruz	6
	61	Grey, Ermita	8
	53.4	Soler, Santa Cruz	8
	91	Almanza, Santa Cruz	8
November, 1909	159.2	Loreto	8 10
	42.6	Disposal, Florida	10
December, 1909	30	Elcano, San Nicolas	6
	24	Zaragoza, Tondo	6
	56	Santiago de Vera, Tondo	6
October, 1909	121.9	Santa Mesa, Sampaloc	(a)
	248.8		21
November, 1909	243.9		18
December and January, 1909-10	182.9		15
	253		12
	236.2		10
December and January, 1909-10	172.6	Pennsylvania	10
	58.4	Tennessee	8
January and February, 1910	248	San Luis	8
February and March, 1910	232.6	General Hospital	9
	123.8		6
May, 1910	38.2	Anda, Intramuros	6
	24.6	Palacio, Intramuros	6
	32.2	Isla de Romero, Santa Cruz	8
June, 1910	108.2	Helios	8
	59	Vermont	8
	75.6	Mercado	6
	300	Valenzuela	8

[a] 2 feet by 3 feet.

The regulation compelling house owners to connect with the sewers was seriously interfered with by a temporary injunction, which has not yet been dissolved, that was granted January 25, 1910, by the Court of First Instance against the Director of Health suspending the enforcement of the ordinance regulating sewer connections in one particular case which may have an important bearing in other cases and until the legal difficulties can be cleared away, considerable delay will be encountered.

The principal difficulties are due to the fact that there are not enough persons engaged in the business of plumbing to handle the work promptly and not a sufficient supply of materials available to meet the demand.

SCIENTIFIC RESEARCH AND SANITARY INVESTIGATIONS.

In spite of the fact that the demands upon the force and time of the employees of the Bureau of Health have been very large, yet it has been possible to carry on a number of scientific investigations, the results of which promise to be most far-reaching.

Dr. A. J. McLaughlin, the Assistant Director of Health, and Dr. Vernon L. Andrews, of the Philippine Medical School, have made an extensive investigation by autopsy and laboratory research into the causes of infant mortality and have conclusively shown that in order to combat this condition which is so serious in the Philippine Islands much additional investigation will be necessary. It is shown that the deaths reported for meningitis were almost in every instance due to other causes; for instance, during the months of October, November, and December, of the 28 cases of meningitis reported, 17 were found to be cholera, 4 beriberi, 1 empyema, 4 could not be determined, and only 2 proved to be meningitis. Subsequently autopsies were held and a disease closely resembling beriberi was found to be one of the principal causes of the mortality among infants, under 1 year of age. This question is still being actively investigated by the Assistant Director of Health and it is hoped that some definite remedy can shortly be applied to lower the appalling infant mortality in the city of Manila at least.

Doctor McLaughlin also perfected a method for safely transporting cholera cultures from distant points so that the diagnosis of cases in remote regions can now be definitely confirmed in Manila by laboratory methods. This is most important in studying the many intestinal diseases which are encountered in the Philippine Islands and will be of considerable aid in throwing light upon the so-called green rice diarrhea which is frequently reported when true cholera exists.

A number of new treatments for leprosy have been tried but so far none have been found superior to the X-ray and chaulmoogra-oil treatments which have been in use in the Bureau for some years.

Another most important line of work was started in connection with the investigating in a scientific manner of the nutritive value of the different food products which the Philippines produce, and of preparing them in a manner so as to be palatable to the masses. It shows for instance, that with a media peseta (5 cents United States currency) a dish of rice, fish, potatoes, and other vegetables could be bought which would be sufficient for the needs of one person for one day and make a nicely balanced diet. This work has been done principally by Miss Mabel E. McCalmont, the supervising nurse. Several papers upon the subject were read by her before the Teachers' Assembly at Baguio.

Under the direction of Medical Inspector A. C. Garton a method of sterilizing receptacles and a design of a bottle for factories making distilled water, was evolved, which has proved very efficient in actual practice.

A hookworm investigation was conducted at Las Piñas and the Cagayan Valley under the direction of Medical Inspector R. S. Rissler, and the discovery of hymenolepsis was made by the commission in Cagayan Valley.

The question of hospital construction in the Tropics has been given considerable thought and attention, and based upon the experience had with those already constructed it is now believed that a type of hospital has been developed which will prove to be most suitable.

Dr. A. J. McLaughlin, Assistant Director of Health, and Dr. A. W. Sellards, of the Bureau of Science, undertook the experimental treatment of cholera at San Lazaro Hospital by the hypertonic salt solution method as advocated by Dr. Leonard Rogers, of India, but no superior results to those of the ordinary salt-solution method were obtained. Sodium hydrate, which was afterwards used, apparently offers some slight improvement over the salt-solution method. (The details of this work were published in the July number of the Journal of Science.)

Experiments have been made with ice machines of small capacity with the hope that some device could be developed which would be suitable for preserving vaccine virus and afford means of furnishing ice to the hospitals located in the remote sections of the Islands, but the results so far are not satisfactory.

In order to make a classification of the diseases treated in the different hospitals and dispensaries of the Bureau of Health uniform, a nomenclature for their classification has been prepared under the direction of Medical Inspector A. P. Goff.

A sewer trap to replace the unsatisfactory bell trap has been designated and is now used in all new work in Manila.

Considerable attention has been given to investigating the merits of the many new disinfectants and germicides with the hope that a more concentrated substance could be found which would mix readily with fresh or salt water and not injure articles and be transportable into remote regions. From the tests so far made Cofectant, Kreso, Izal, and Jeyes Fluid have proven more satisfactory than carbolic acid.

THE SOCIETY FOR THE PROTECTION OF INFANTS.

The support given by the community to the Society for the Protection of Infants, or the Gota de Leche Society, as it is commonly called, has steadily decreased until only about ₱164 are received monthly. It would probably have suspended operations before now if its worthy purposes and efforts in saving the lives of children had not been brought to the attention of the Philippine Legislature through which means an appropriation was secured that has enable this Bureau to contribute approximately ₱500 monthly to its support. This is in addition to the assistance obtained from the Municipal Board of the city of Manila which voted the sum of ₱1,800 annually for the employment of nurses.

The assistance thus obtained has enabled this worthy institution to continue, but it has practically changed its status from that of independence to reliance on Government support, thus following local customs in matters of this kind.

AMBULANCE SERVICE.

The ambulance service in the city of Manila has been greatly improved during the year. With a view of determining which type of ambulance would prove to be most suitable, the city of Manila purchased patrol wagons which can readily be converted into ambulances: and this Bureau purchased two electric ambulances. Both types of ambulances have proven most satisfactory, but the steamer type is more expensive to operate. Another year's experience will probably be necessary in order to demonstrate which type is the most suitable for use in Manila.

UNIFORMS.

The regulations with reference to the uniforms of sanitary inspectors have been revised so as to require the use of the campaign hat similar to that used by army officers, the only difference being the employment of a silver hat cord instead of the gold cord.

Disinfectors and ambulance attendants are uniformed in the same manner as sanitary inspectors, the distinction being in their badges.

CHANGE OF HEADQUARTERS DURING HOT SEASON.

This year the policy of transferring every Bureau possible to Baguio during the hot season was fully adopted and the movement was begun on a large scale.

The Governor-General extended the time for the occupancy of the summer capital or the "Baguio season," as it is popularly called, from February 15 to June 15 of each year. Owing to the unfinished state of the Government buildings at the opening of the season, a short postponement of the exodus was necessary.

The officers and employees assigned to Baguio are required to perform not less than seven hours labor each day, exclusive of Sundays and public holidays, and five hours on Saturdays. The vacation leave of employees assigned to Baguio is reduced proportionately to the duration of their assignment; for example, a thirty days' assignment to Baguio cancels two-thirds of the vacation leave, while a full assignment for the entire season, cancels the entire vacation leave.

The employees of most of the Bureaus suffered from diarrheal diseases which were attributed to contamination of the distilled water by flagellates, due to inadequate safeguarding and to the lack of adequate cold-storage facilities, particularly for meat. With the exception of this disease, the employees as a rule enjoyed good health. Most of the employees, however, gained weight and returned to Manila much improved. As the facilities at Baguio improve there should be little difficulty in preventing intestinal disturbances of this kind.

It will hardly be questioned that the amount of work accomplished in Baguio exceeded that performed in Manila, which fact may be properly ascribed to the bracing effect of the climate.

The spending of a part of the year in Baguio will have a profound influence on the believed-to-be-necessary practice of returning to the United States for the benefits to be derived from cool weather.

The increased preparations that will be made for the next season and the better safeguarding of the drinking water and food will insure better and more pleasant environments and conditions and add to the popularity of this resort.

THE PAYNE BILL AND THE EXPORTATION OF TOBACCO PRODUCTS.

The passage of the Payne Bill soon caused all the tobacco factories to increase their number of employees and in some instances night shifts were put on.

In certain quarters of the United States slanderous reports were circulated with regard to the insanitary conditions of local factories and with regard to loathsome diseases with which the employees were alleged to be afflicted.

In addition to the routine inspections which had been in vogue for some years under the provisions of the Sanitary Code special investigations were made and the health of the operatives was found to be excellent. These inspections are kept up without relaxation and are submitted to willingly by the factories.

In order that the "guarantee label" provided for by an Act of Congress may be affixed only in accordance with law, every factory desiring to use it upon its product must comply with the following regulations:

DEPARTMENT OF THE INTERIOR,
BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS,
Manila, P. I., April 1, 1910.

REGULATIONS OF THE BUREAU OF HEALTH FOR THE SANITARY CONTROL OF CIGAR FACTORIES.

1. All the rules and measures at present in force for the sanitary maintenance of houses and shops shall be observed most rigorously, giving special attention to personal cleanliness and to the sweeping and washing of floors and walls, and also to the collection of garbage and refuse in metal receptacles with well-fitted covers. (Sec. 690 of Revised Ordinances.)

2. There shall be installed at some convenient place, approved by the Director of Health, in each factory, wash basins of modern type, arranged in rows, with an abundant supply of water, with proper traps and vents and connected with the sewer. One or more special employees of the factory shall have charge of the cleaning and proper keeping of these wash basins and shall see that each laborer or workman before commencing work shall wash his hands with soap and water. The Bureau of Health, may, at its discretion, compel this washing to be done with a disinfecting solution.

3. A sufficient number of modern water-closets, properly trapped and vented, shall be installed for the employees of each sex, and also a wash-basin fixture of approved type for each flush closet. The closet for men should be equipped, in addition, with a sufficient number of urinals of modern type approved by the

Bureau of Health. One or more special employees shall be in charge of the cleaning and proper keeping of these sanitary fixtures and shall see that all employees, male or female, carefully wash their hands upon leaving the closet. Upon request of the factory, such employees, as well as those performing similar duties referred to in paragraph 2, will be given special appointments, by the Director of Health as subsanitary inspectors.

4. No restaurants, canteen, dining room, or "carinderia" will be permitted in the interior of the factory except those with first-class sanitary accomodations.

5. It is prohibited absolutely to hire employees suffering from any contagious, infectious, or desquamative disease, however mild. All employees, upon original entry into the factory, must first pass a satisfactory medical examination at the hands of the physician of the factory or by a doctor of the Bureau of Health. Twice each month, on the first and fifteenth thereof, medical inspection must be made of each and every operative employed in the manufacture of cigars and cigarettes and lists will be prepared, signed by the factory physician and promptly forwarded to the Director of Health, following each inspection, giving the name of each employee and the class of work engaged upon, who may be found free from any contagious, infectious, or desquamative disease. A second list shall be furnished on which shall be shown in the same identical manner any employee not free from any disease mentioned above, and such employees shall be at once segregated and not permitted reëntry into the factory until free from such disease. This semimonthly inspection shall not prevent at any time the inspection of any or all of the employees, male or female, by a health officer, whose decision in matters of disease and sanitation shall be decisive.

6. The use of a sufficient number of spittoons of smooth and polished surface, to facilitate their cleaning which must be done at least once every day, shall be compulsory in all factories.

7. Young children, especially nursing children, shall not be permitted to enter any cigar factory.

8. It is absolutely prohibited to use saliva, impure water, the lips, tongue, or mouth, or unclean hands, in any operation directly connected with the manufacture or packing of cigars and cigarettes. It is also prohibited to trample or walk or stand on the tobacco for any purpose whatever.

9. All the operations in selection of leaves and the drying and manufacture of cigars and cigarettes, except where necessary in process of manufacture, shall be made upon perfectly dry floors and on dry, clean working tables. The warehouses shall be dry and well provided with air and light. The use of clean mats upon floors and tables, also clean, is permitted.

10. For the purpose of preventing so far as possible the falling to the floor and probable contamination of tobacco leaves and other materials used, the work tables shall be provided with canvas troughs along their edges, which shall be kept in a proper state of cleanliness.

11. No article of clothing or part thereof, as skirts, "tapis", handkerchiefs, etc., will be used to wrap or remove from one place to another tobacco or other materials used in the manufacture of cigars and cigarettes.

12. No room, parlor, warehouse, or premises used as a shop or a part of a cigar factory shall be used as habitation or sleeping room by any person or persons at any time of day or night.

13. All factories shall be kept open to the inspection of the officers and employees of the Bureau of Health, without previous notice. These inspections may be made at hours and days wholly unexpectedly in order that the degree of attention which the owners pay to the compliance with these rules may be determined.

PROVINCIAL HOSPITALS.

It is most satisfactory to report that during the year just closed more progress has been made toward the establishment of hospitals in the provinces than during the entire preceding time of the American occupation.

The following amounts have become available for constructing hospitals: Cebu General Hospital, ₱81,757; Cebu Dangerous Communicable Diseases Hospital, ₱30,000; Sibul Springs Sanitarium, ₱80,000 (approximately); Bontoc Hospital, ₱30,000; Tuguegarao Hospital, ₱80,000; Butuan Hospital, ₱8,000; medical officer and nurses' quarters at Baguio, ₱30,000; medical officer and nurses' quarters, San Lazaro, Manila, ₱30,000.

Plans for the Cebu hospital have been completed and bids are now being advertised for, so that before another year passes it is to be hoped that this hospital will be in actual operation. At Bontoc, the ground has been broken and construction begun.

In the last Bureau of Health report submitted by Col. E. C. Carter (then major), the immediate predecessor of the present Director, he said in treating of provincial hospitals:

> No one who is not associated intimately with the people of these Islands can realize how much unnecessary suffering exists among them, or how many unnecessary deaths occur. Number of cases of deformities, of old wounds, injuries, and dislocations, and of surgical diseases as well as other ailments, are waiting help at the hand of the surgeon or physician. I have very much hope to see some of these district hospitals established by the Government during my term of office. To me, the need of hospitals seems the greatest, most obvious, and imperative need of these Islands. The suffering, diseases, and deformities must be seen to be realized, and it is well known that those afflicted with diseases or deformities are likely to conceal themselves from public view so that it is mainly the physician who comes in contact with them and realizes their existence. A statement of statistics or a description of the cases will neither move nor touch as seeing them does.
>
> It was hoped, too, that the establishment of these hospitals, and their maintenance along scientific lines, might have aided in convincing the inhabitants of these Islands that the Government has their good at heart.

Colonel Carter, though thousands of miles away, never lost interest in this project. In his last message to the Philippine Islands, addressed to a medical inspector of the Bureau of Health, he asked about the provincial hospitals and expressed the hope that some of them would soon be built. But he died April 12, 1910, without knowing that the realization of his fondest hope was at hand. He would not have wished for a greater monument than the establishment of these hospitals or for greater fame than that his name shall associated with the announcement of the fact that the appropriations have been for such purpose, and that a good beginning has been made in the system of provincial hospitals for which he hoped with all the earnestness of his unselfish nature.

DEATH OF COLONEL CARTER.

Lieut. Col. Edward Champ Carter, Medical Corps, U. S. Army, died at the Army and Navy Hospital, Hot Springs, Ark., on April 14; immediate cause of death, œdema of the lungs. Colonel Carter had been ill since last September. During December, 1909, and January, 1910, he was in the Presbyterian Hospital, Chicago, under the care of Dr. Frank Billings. He was tranferred to the Army and Navy General Hospital, Hot Springs, Ark., in February.

Colonel Carter was born in Caroline County, Virginia, July 7, 1854, and was appointed first lieutenant and assistant surgeon in the Army October 22, 1881. He was advanced to the grade of captain October 22, 1882; promoted to major-surgeon, United States Army, December 21, 1898, and to lieutenant-colonel, Medical Corps, April 23, 1908. During his service in the Army he was stationed at Willets Point, N. Y.; Angel Island, Cal.; Camp Price, Ariz.; Fort Thomas, Ariz.; Columbus Barracks, Ohio; Fort Walla Walla, Wash.; and various posts in the Departments of Columbia and Dakota. While stationed at Fort Canby he was commended by the Secretary of the Treasury for valuable service rendered the life-saving crew at Fort Canby in rescuing the passengers and crew of the old British ship *Strathblune*. He was in charge of the Leiter U. S. General Hospital and Sternberg General Hospital, Chickamauga Park, Georgia, during the Spanish-American war. He was attending surgeon in Washington from 1898 to 1902, and was the commissioner of public health, Philippine Islands, from 1902 to 1905. Colonel Carter was universally known as an accomplished gentleman and an ornament to the Medical Corps of the Army.

SPECIAL SANITARY PROBLEMS IN THE PROVINCES.

A satisfactory method suitable for disposing of excreta in the provinces of the Philippine Islands is yet to be found. Many plans have been proposed most of them more theoretical than practical. Those who are familiar with local conditions will realize that the resources of the average community are very limited and that a plan must be found which can be put into working shape with a minimum amount of effort and cost.

In large communities where water carriage of sewage is possible, septic tanks are used successfully. In communities in which cholera has prevailed, the pail system, the digging of pits, and covering of excreta with lime or clean earth at regular intervals has been found effective but the cost of maintenance and inspection at regular intervals is prohibitive and only warranted by emergency conditions.

Some years ago a plan was suggested of installing a pail system with an after treatment of the night soil which would render it suitable for fertilizing mulberry trees, thus promoting the silk industry, the income from which would in a short time place this particular sanitary measure upon a self-paying basis.

The plan followed in many oriental countries of letting out private contracts for the collection of night soil from private residences is not believed to be a safe one. It is an established custom to use such night soil for fertilizing vegetables and it is believed that the consumption of raw vegetables thus fertilized has had much to do with the spread of amœbæ dysentery, cholera, hookworm and other intestinal diseases.

SANITARY EDUCATION BY CINEMATOGRAPHS AND LANTERN DEMONSTRATIONS.

To supplement the educational feature of the sanitary campaign being conducted by the Bureau of Health, especially with reference to tuberculosis it was decided to utilize the cinematographs of the city and as a beginning the following letter was addressed to one of the leading operators of moving picture shows in Manila:

MANILA, P. I., *October 13, 1909.*

Mr. A. W. YEARSLEY,
P. O. Box 653, Manila, P. I.

SIR: This Bureau is desirous of commencing an educational campaign with regard to the manner in which the spread of tuberculosis may be prevented and it is believed that one of the best ways of doing this would be by means of cinematograph films. Information is respectfully requested as to whether it would be practicable to obtain films which would illustrate the nature of the bacilli of tuberculosis and of other infectious germs, and have such films shown at the local cinematograph shows as a part of the educational campaign being conducted by the Bureau of Health.

This work is of a charitable nature entirely, and especially intended to enhance the sanitary knowledge of the poor and thus improve their condition.

An estimate of the cost is desired in order that this office may make the necessary financial arrangements for securing the films.

In reply to the foregoing letter, Mr. Yearsley wrote as follows:

EMPIRE THEATER,
Manila, October 17, 1909.

DEAR DOCTOR HEISER: Your favor of the 13th instant came to hand and I must say that the suject of sanitary educational moving-picture films is one which should receive the most hearty support of everyone. It brings to the writer's mind a number of articles printed some time ago in one of the leading magazines of the country, entitled "The White Man's Plague." It is suggested that the assistance of the writer of these articles be asked with a view of having his illustrations reduced to films. This would enable me to take the matter up with the motion-picture people.

As a result of this correspondence there are now being shown in Manila every night to thousands of people, pictures of deadly germs and during the day the public-school teachers are giving instructions in the principles of hygiene, thus following up these practical lessons with wholesome advice.

Such a campaign should be productive of great good, and judging from the enthusiasm with which the films are received, the project was just what was needed. Cinematographs are the poor-people's theaters but are frequented by all classes—rich and poor, old and young, alike. By this means every home in Manila is reached sooner or later.

Arrangements have just been completed for the purchase of a large reflectoscope which will be suitable for use in the provinces. A medical officer of the Bureau who can speak the dialect of the section in which it is intended to use it, will be detailed to deliver lectures in simple language upon subjects of popular hygienic interest, such as tuberculosis, intestinal parasites, personal hygiene, diet, and others of a similar nature.

MEDICAL EDUCATION.

The Philippine Medical School during the early part of the present session will occupy its new building which was specially designed and equipped for medical-school purposes. With the excellent facilities which now exist in that institution and the many capable instructors connected therewith, the school is in a position to take front rank among the medical institutions of the world and shortly will offer facilities for the study of tropical medicine which can not be surpassed in any other portion of the globe. The Santo Tomas University has also been improving its equipment and arrangements have been made for some of its faculty to go abroad for the purpose of becoming familiar with the latest discoveries in medicine. This institution is in a far better position now to teach medicine than at any time in its history.

SPECIAL SCHOOLS.

A most important step in a movement inaugurated by the Catholic Church, which has as its purpose the reformation of youthful incorrigibles and the protection of orphan children, has been taken by Archbishop Jeremiah J. Harty in the purchase from the Government of the buildings on the friar lands estate at Calamba, La Laguna, and at Lolomboy, Bulacan.

Realizing the necessity for such institutions, especially a reformatory, the Archbishop authorized his legal representatives to purchase these buildings, and work will be begun immediately to remodel them into a style more suitable for the purpose.

The buildings at Lolomboy were formerly used as *casas haciendas,* being the administration buildings of the surrounding estates. The buildings are inclosed by a high wall, the area inside being about 7 acres.

This is to be used as a model reformatory and industrial school where, for the first time in the history of the Philippine Islands, incorrigible youths will be given every opportunity and will be assisted to become good and useful citizens.

The need for such an institution has been pointed out many times, both by the clergy and judges of the municipal court, and the Archbishop believes that the institution will be able to accomplish much good.

The buildings on the estate are fine examples of masonry and are substantial structures which have stood for decades and can be readily repaired.

The lower floors are to be converted into model workshops, where boys will be taught trades under competent instructors.

Heretofore the incorrigible youth of the city have been sent to the Hospicio de San Jose, where no such methods could be adopted owing to the nature of that institution, but the administration of the industrial school at Lolomboy will remain in the hands of the board of directors of that college. Direct control of the school, however, will be in the hands of the Sisters of Charity, who will attend to all domestic arrangements.

The buildings on the Calamba Estate will be converted into an industrial and training school for orphan girls, where the inmates will be given, besides the usual course of study, instruction in lace making, embroidery, domestic science, and other useful arts.

The Archbishop is also negotiating for the purchase of the buildings on the friar lands estate at Naic, Cavite, but the transfer has not yet been affected. These buildings, if secured, will be turned into a girls' school similar to that to be established at Calamba. The plans for these institutions, however, have not yet been fully developed.

SCHOOL FOR DEFECTIVES.

The Bureau of Education maintains a boarding school for defective children, especial attention being paid to the deaf, dumb, and blind. The school is located in Manila but pupils are received from all parts of the provinces.

The school is supplied with modern mechanical devices used in the special methods for imparting knowledge to defectives, and is under the management of Miss Delight Rice, of Columbus, Ohio, who has been specially trained for this class of work.

Industrial work is a feature of the educational course and each graduate will be equipped to make his own living.

ARMY MEDICAL BOARD FOR THE STUDY OF TROPICAL DISEASES.

The personnel of the Board has undergone a change owing to the period of service of its former members in the Philippine Islands having expired. The Board is now composed of Maj. W. B. Chamberlain, Capt. Edwin D. Kilbourne, and Capt. Horace D. Bloombergh. Considerable assistance has again been rendered by this Board to the public-health service by its investigation of problems which are of interest not only to the Army but to this Bureau as well. The tests made with actinic-proof clothing were reported at the meeting of the Far Eastern

Association of Tropical Medicine. Considerable additional work has been done in connection with intestinal parasites which will throw light upon this problem in the Philippines. Much of the material which is used by the Board is still being furnished by this Bureau.

"CIRUJANOS MINISTRANTES" AND PRACTICANTES.

With two medical colleges in the Philippine Islands the day of the *cirujano ministrante,* the *practicante,* and the *mediquillo* is drawing to a close.

Some plan must be devised to induce the young medical graduates to locate in the provinces. They all want to have offices in Manila. The Bureau of Health appointed one young man as assistant district health officer and after the usual period of instruction in one of the health stations of Manila, he was assigned to the Province of Bataan, in the cholera work. After the lapse of a few months he was ordered to Pampanga Province, probably not more than 20 miles further away from Manila and he resigned rather than go so far from home. Twenty miles with the average Filipino is more that a thousand miles to an American so far as going away from their home is concerned.

It is this attitude that has filled the larger cities of the Philippines, especially Manila, with an excess of physicians, and left many of the remoter municipalities in need of trained medical attendance and has given rise to a crop of *mediquillos* who impose on the people regardless of the laws.

LEGAL REQUIREMENTS FOR THE PRACTICE OF MEDICINE IN THE PHILIPPINE ISLANDS.

Act No. 310, regulating the practice of medicine and surgery in the Philippine Islands, enacted December 4, 1901, provides in effect that every person desiring to begin the practice of medicine and surgery within the jurisdiction of the law shall apply to the Board of Medical Examiners for a certificate of registration and such applicant shall submit to an examination in anatomy, physiology, chemistry, materia medica and therapeutics, pathology and bacteriology, hygiene, surgery, practice of medicine, obstetrics, diseases of women and children, diseases of the nervous system, diseases of the eye and ear, medical jurisprudence, and shall present a diploma from a medical school or college recognized as reputable by the Director of Health. These examinations may be oral or written, or both, and in case an applicant shall fail to pass a satisfactory examination, he shall not be permitted again to present himself for examination until a period of six months has elapsed.

The Board of Medical Examiners is required by law to meet in the city of Manila for the purpose of examining candidates desiring to practice medicine in the Philippine Islands on the second Tuesdays of January, April, July, and October of each year.

Special examinations are frequently held to accommodate physicians who are going to the provinces or who would otherwise be inconvenienced by waiting for the regular examinations. No temporary certificates are issued.

The fee for examination as a physician, either licentiate or doctor of medicine, is $15 (₱30), and the certificates issued by the Board must bear an internal-revenue stamp of $0.10 (₱0.20), thus making the total cost of the certificate $15.10 (₱30.20). The financial transaction does not end here. Every person holding a certificate of registration from the Board of Medical Examiners shall have it recorded in the office of the registrar of deeds in the province or provinces within which he may desire to practice or in the city of Manila, as the case may be, before engaging in the practice of medicine, surgery, or midwifery, and until such certificate is so recorded, the holder thereof shall not exercise any of the privileges to practice medicine conferred therein. The fee for recording a certificate is $1.50 (₱3) for each province in which it is registered, the fee however is paid but once in the same province.

After a doctor has successfully passed his examination and recorded his certificate with the registrar of deeds, he must next pay an industrial tax of $25 (₱50). This tax is collected every year but may be paid in quarterly installments.

After all of this has been done, the physician may open an office and wait for patients, unless he be a Government employee, in which case, the permission of the Secretary of the Department in which he is employed must be had.

The Board of Medical Examiners issues four kinds of certificates, one for persons holding the degree of doctor of medicine, another for persons holding the degree of licentiate of medicine, a third for *cirujanos ministrantes,* and a fourth for midwives.

The examination is the same for doctors and licentiates of medicine and the privileges conferred by the certificates are identical except as to eligibility for appointment on the Board of Medical Examiners, as only doctors of medicine can serve in this capacity.

A *cirujano ministrante* is a person who has studied medicine in the Santo Tomas University of Manila for not less than two years and received therefrom the degree of *cirujano ministrante.*

A *cirujano ministrante* and an undergraduate of medicine are one and the same thing within the meaning of the law. In the larger municipalities, *cirujanos ministrantes* usually assist physicians by administering medicine, taking the temperature and pulse, and noting any condition or change that should be brought to the attention of the medical attendant. They are the personal representatives of the physicians and remain with the patients as attendants, there being two or more employed for each case according to the financial condition of the patient.

In the remote municipalities where there are no civilian physicians, *cirujanos ministrantes,* better known as *practicantes,* are sometimes licensed by district health officers to practice medicine after passing a "satisfactory examination" and paying the required fee of ₱10 to the provincial treasurer. The Board of Medical Examiners has no control over this special examination and takes no cognizance of such licenses except to require the holders of the same to be registered as *cirujanos ministrantes.* The *cirujano ministrante,* both in the provinces and the larger municipalities, is on the lookout for himself and often solicits practice by personal requests and other means quite as unprofessional.

The Santo Tomas University degree of C. M. is the only C. M. degree recognized by the Medical Act. The Philippine Medical School, a department of the Philippine University, grants only the degree of M. D. and its students are registered without examination, under an Act of the Commission but in all other respects, they are required to comply with the provisions of Act No. 310.

The law contemplates that no person shall practice midwifery in the Philippine Islands without first having passed a satisfactory examination before the Board of Medical Examiners and being granted a certificate of registration. This is the only registration permitted to the nonholders of a medical degree. There are many illegal practitioners of midwifery, especially in the provinces, and it is practically impossible to remedy the evil under the present conditions. It is a question of licensing a great number of incompetent people or creating an obstetric monopoly, since those who can pass an examination of the simplest character are exceedingly few.

Registered midwives charge almost as much for their services as do the best physicians and their certificates of registration are just as attractive to the public as the certificates of the doctors. This is another matter that demands legislative attention.

The character of medical examinations in the Philippine Islands will compare favorably with State board examinations of the United States. No literary educational test is required by Act No. 310, regulating the practice of medicine and surgery, either as preliminary to the study of medicine or in the examinations for admission to practice. Such tests are not necessary for the graduates of the Manila medical schools as practically all of them hold the degree of bachelor of arts.

Medical officers of the United States Army, the United States Navy, and the United States Public Health and Marine-Hospital Service are exempt from the operations of the Medical Law and from the payment of the industrial tax imposed on physicians if they engage in private practice.

The present organization of the Board of Medical Examiners consists of Dr. Isidoro Santos, president; Dr. Eleanor J. Pond, secretary-treasurer, and Dr. Almon P. Goff, member.

The address of the secretary-treasurer who is the proper person to apply to for information, is University Hospital, Manila.

OBSTETRICS.

Recently a determined effort has been made by the faculty of the Philippine Medical School and the physicians of the Bureau of Health to furnish a better obstetrical service to the indigent poor of the city of Manila. To accomplish this purpose an out-patient obstetrical department was established to which was attached two nurses and a sufficient number of physicians so that one or more would be subject to call at all times. Patients were visited in their homes before labor and were confined there if they did not desire to enter the hospital.

During the early part of April only a few calls were received. Great publicity was given to this movement and considerable self-sacrificing work has been done and it is satisfactory to report that 1,147 visits were made during May, the number of deliveries being 36. A large number of lives were undoubtedly saved by this improved service and an educational movement has been started which it is hoped will make itself gradually feft throughout the Philippine Islands.

At the present time the great difficulty is to impress the masses with the necessity of demanding a better class of service from the midwives and not to attribute untoward results to the inevitable.

This movement will unquestionably be of considerable aid in successfully starting the school for midwives which it is proposed to conduct in connection with the obstetrical department of the new Philippine General Hospital.

THE LEGAL STATUS OF THE PRACTICE OF OBSTETRICS IN THE PHILIPPINE ISLANDS.

In view of the great interest recently manifested in this question the following paper prepared by Medical Inspector R. E. L. Newberne for the Manila Medical Society is reproduced.

The legal status of the practice of obstetrics in the Philippine Islands is fixed by section 11 of Act No. 310, and is as follows:

"Any person desiring to practice obstetrics in the Philippine Islands shall be entitled to a certificate of registration as midwife from the Board of Medical Examiners, upon passing a satisfactory examination and paying to the secretary-treasurer of the Board a fee of five dollars (ten pesos). The examination shall be of such a character as to determine the qualifications of the applicant for the practice of midwifery. Any person practicing midwifery in the Philippine Islands without first having obtained a certificate of registration herein provided for, or otherwise contrary to the provisions of this Act, shall, upon conviction, be punished by a fine of not more than fifty dollars (one hundred pesos) for each offense: *Provided*, That this section shall not be construed to prevent a doctor of medicine or licentiate of medicine who holds a certificate of registration as such

from practicing obstetrics, or to prohibit the gratuitous rendering of obstetrical services by a friend or member of the family of the patient, or to prohibit the rendering of obstetrical services by any person in any case of emergency, nor shall it apply to persons practicing midwifery in municipalities where there are no licensed practitioners."

After the certificate provided for in the aforesaid section has been received, it must be registered pursuant to section 7 of the Medical Law which requires that—

"Every person holding a certificate from the Board of Medical Examiners shall have it recorded in the office of the registrar of deeds in the province or provinces within which he may desire to practice, or in the city of Manila, as the case may be, before engaging in the practice of medicine, surgery, or midwifery; and until such certificate is so recorded, the holder thereof shall not exercise any of the privileges to practice medicine conferred therein. The holder of the certificate shall register the usual fees for recording such certificates."

After the legal fee of ₱10 has been paid, a 20-centavo internal-revenue stamp purchased, the required examination passed, and the certificate recorded with the registrar of deeds, and the fee of ₱3 therefor, duly paid, the midwife may legally exercise her profession, after paying an internal-revenue tax of ₱10.

Thirty-six midwives have registered since the organization of the Board of Medical Examiners, January 4, 1902, of which number, thirty-four reside in Manila, one in Iloilo, Iloilo, and one in Vigan, Ilocos Sur.

The first midwives that were registered were those that had been students in the San Juan de Dios Hospital or in other hospitals and had been exercising their profession in Manila before the passage of the medical law.

The number who had received hospital training was so small in comparison with the number who were practicing midwifery that it gave those that were registered a monopoly and they were not slow to take advantage of it, and to arrange their schedule of fees on modern trust lines.

There are more women practicing midwifery in Manila than the 34 who are registered and it is possible that some of the unregistered practitioners are fully as capable as the registered ones. Many of the latter are certainly not mentally or educationally equipped for their important work, and their registration was a choice of two evils. They were practicing under the protection of the "friend of the family" clause of the law, and not reporting their cases, with the result that the Board of Health was shut out from a valuable source of information with regard to birth statistics. After due consideration it was decided that as registered midwives these women could do less harm than they were doing as illegal practitioners, and that as it was impracticable to keep them from practicing, it would be better to register the more prominent ones.

In a few instances in which prosecution was instituted against women for practicing midwifery, illegally, the court advised that those who had been engaged in the practice for many years be registered. Notices were sent out to all known illegal practitioners that they must register or cease practicing and as a result several appeared before the Board and did the best they could. Not a single applicant was qualified to pass a written examination; in fact many of them could not write at all, and did not know the names of the structures and were not familiar with the terms ordinarily employed by examiners, hence it was required that oral examinations should be supplemented by certificates from physicians, testifying to the experience of the applicants.

The increase in the number of births reported and the interest that these women have shown in Doctor Calderon's lectures for their instruction have demonstrated the wisdom of the concession that was made to them.

The status of the midwife in the Philippine Islands is far from satisfactory but it is not beyond hope.

Let the trained nurse supplant her and the problem will in part be solved.

THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE.

The first biennial meeting of this association was held in the city of Manila from March 5 to March 12, 1910, and in Baguio from the 13th to the 14th of the same month. The sessions in Manila were held in the administration building of the new Philippine General Hospital, and in Baguio in the session hall of the Philippine Commission. Delegates were present from Japan, China, Colombo, Hongkong, Straits Settlements, India, Siam, German Port Tsingtaw, Federated Malay States, New Zealand, Netherlands Indies. The character of the papers presented to the Congress was of a very high order and some of the reports upon scientific work will no doubt rank among the epoch-making announcements in medicine during the present century; this is particularly true with regard to beriberi, carcinoma, cultivation of the lepra baccillus, the cause of infant mortality, and the successful treatment of surra.

The Philippine Government made an appropriation to defray the expenses of the congress and the delegates were officially invited by His Excellency the Governor-General.

The following resolutions were passed by the congress at the business session held in Baguio March 14, 1910:

BERIBERI.

Resolved, That in the opinion of this association sufficient evidence has now been produced in support of the view that beriberi is associated with the continuous consumption of white (polished) rice, as the staple article of diet, and the association accordingly desires to bring this matter to the notice of the various governments concerned.

QUARANTINE.

Resolved, That the Far Eastern Association of Tropical Medicine, appreciating the benefit which would accrue from concerted sanitary action on the part of eastern governments, be empowered officially to approach the following Governments, namely: Philippine Islands, Japan, Hongkong, French Indo China, Siam, Netherlands, India, Straits Settlements, and Ceylon, with the view, if possible, of obtaining their official support on the following lines:

1. To have a common standard for the term "epidemic," when making reports to, or imposing quarantine against, each other.

We suggest the following definition for consideration: Plague, cholera, smallpox, or yellow fever shall be considered to be epidemic, when, after the first telegraphic report of its occurrence, any weekly report thereafter shall show the occurrence of an average daily number of three cases.

2. To agree to notify each other's territories as infected, only when the infectious disease shall have assumed epidemic proportions as defined above; and automatically to withdraw such notification when the average number of cases for three successive weeks has fallen below the status epidemicus as above defined.

3. To circulate weekly returns of plague, cholera, smallpox, or yellow fever amongst each other, and also a telegraphic report on the first occurrence of any of these disease, in a clean port or territory.

4. To insist on a bill of health being carried by all ships, leaving a country declared to be infected, which intend to proceed in the port of another signatory; such bills of health to include a return of infectious disease for the previous forty-eight hours.

5. To report by telegram to the country concerned, the departure of an infected or suspected ship (as defined by the Paris convention) which may intend to proceed to any port in the territories of another signatory; and to indorse the bill of health of the said infected or suspected ship with a full account of measures taken to disinfect or otherwise deal with the said vessel.

OPIUM.

Report.—Your committee, appointed to consider the opium question, regret that the time at their disposal precludes the possibility of giving the subject adequate consideration.

They have reviewed the work done and the resolutions agreed on by the International Opium Commission, Shanghai, 1909.

With these resolutions your committee is in agreement, but it is to be regretted that the paucity of medical commissioners prevented the question being dealt with fully in its medical aspects.

Any measures which are introduced for the control of opium must be adequate to guard against the danger of secret remedies containing opium and opium derivatives being substituted.

They would suggest that the delegates from the various countries represented at this conference should be asked to arrange that the regulations controlling the sale of opium in their respective countries, as well as any observations they may care to make on this subject, be submitted to the next meeting of this association in 1912.

PLAGUE.

Report.—In our opinion the only practical measure concerning plague that we can recommend is the advisability of each country represented agreeing to notify to the other countries the occurrence of plague within their borders, the first case by telegram and afterwards by weekly returns.

TUBERCULOSIS.

Resolved, That the Far Eastern Association of Tropical Medicine should use its influence to cause the formation of a national antituberculous society in each political entity represented in the Far Eastern Association of Tropical Medicine. These societies to be formed along the lines of existing antituberculous societies in other parts of the world, yet revised to facilitate the work under local conditions.

LEPROSY.

Resolved, That—

1. Leprosy is to be regarded as a dangerous communicable disease.
2. Compulsory notification of all cases of leprosy to the authorities is essential.
3. Compulsory segregation of all cases of leprosy is necessary and preferably in special colonies constructed for the purpose.
4. The entrance of aliens afflicted with leprosy into a country must be prohibited.

There were eight scientific sessions held at which the following program was carried out:

FIRST SESSION.

Saturday, March 5, 1910.

Address of welcome, by the Hon. Gregorio Araneta, Secretary of Finance and Justice.

Address on behalf of the city of Manila, by the Hon. Felix M. Roxas, president of the Municipal Board.

Address, "The Tropical Sunlight," by the president of the association, Dr. Paul C. Freer.

SECOND SESSION.

PROTOZOÖLOGY HELMINTHOLOGY.

Statistical Studies of Uncinariasis among White Men in the Philippines. Maj. W. P. Chamberlain, U. S. Army.

The Common Fasciolopsis of Chehkiang. Dr. Francis N. Goddard, Shaohsing, China.

Unidentified Larvæ of some Dipterous Insect Developing in the Deep Urethra and Bladder. Asst. Surg. G. P. Trible, U. S. Navy.

The Role of Arthropoda in Man's Life in the Tropics. Mr. Charles S. Banks, biological laboratory, Bureau of Science.

Flies and Fleas as Factors in the Dissemination of Disease. The Effects of Petroleum as an insecticide. Dr. J. S. Purdy, Auckland, New Zealand.

Kala Azar. Maj. C. Donovan, I. M. S., Madras.

Treatment of Trypanosomiasis. Dr. Richard P. Strong, chief, biological laboratory, Bureau of Science, and Dr. Oscar Teague, biological laboratory, Bureau of Science.

THIRD SESSION.

CHOLERA, PLAGUE, LEPROSY, AND IMMUNITY.

Address, Dr. Francis Clark, medical officer of health, delegate from the government of Hongkong.

The Present Position of the Leper in View of the Resolutions Passed at the International Conference on Leprosy at Bergen, 1909. Sir Allan Perry, principal civil medical officer of Ceylon, Colombo.

Treatment of Leprosy. Mr. Moses T. Clegg, biological laboratory, Bureau of Science, and Maj. Eugene R. Whitmore, U. S. Army.

The Preservation of Vaccine Virus. Dr. E. H. Ruediger, biological laboratory, Bureau of Science.

Cholera and Other Similar Vibrios Encountered in the Philippines. Dr. A. J. McLaughlin, U. S. Public Health and Marine-Hospital Service, Bureau of Health.

Treatment of Asiatic Cholera. Dr. A. W. Sellards, biological laboratory, Bureau of Science.

Further Observations upon the Specific Treatment of Cancer. Dr. Arthur F. Coca, biological laboratory, Bureau of Science, and Dr. Philip K. Gilman, Philippine Medical School.

FOURTH SESSION.

SURGERY AND OBSTETRICS ; DISEASES OF CHILDREN.

A Case of Congenital Absence of Both Upper Extremities. Dr. James Norwood, lieutenant, colonel, I. M. S., civil surgeon, United Provinces, India.

Operations for Liver Abscess with a Demonstration of a New Operation. Dr. John R. McDill, Philippine Medical School.

Clinical Remarks on 32 Abnormal Cases in the Obstetrical Department of the Philippine Medical School. Dr. Fernando Calderon, Philippine Medical School, and Dr. Victor Sevilla, Philippine Medical School.

Report of Cases Treated by Opsonotherapy. Dr. Henry Fitzbutler, biological laboratory, Bureau of Science.

Studies on Infant Mortality. Dr. A. J. McLaughlin, Public Health and Marine-Hospital Service, Bureau of Health, and Dr. Vernon L. Andrews, Biological Laboratory, Bureau of Science.

Contributions to the Physiology of Growth and Nutrition of Children in the Tropics. Dr. Hans Aron, Philippine Medical School.

FIFTH SESSION.

FEVERS IN THE TROPICS, INCLUDING MALARIA, TYPHOID, ETC.

A New Bacillus which is apparently an Etiological Factor in Conjunctivitis recently Observed in Singapore. Dr. Gilbert E. Brooke, delegate from the Straits Settlements, Singapore.

Malarial Fever in the Puerperium. Dr. John M. Atkinson, Victoria Hospital, delegate from the government of Hongkong.

The Parthogensis of the Female Cresent Body. Capt. H. M. Neeb, medical officer of the first class, delegate from Her Majesty's Government of the Netherlands Indies.

Myzomyia Rosii as a Malaria Carrier. Dr. W. T. de Vogel, chief medical officer, Semarang, Java.

Antimalarial prophylactic measures and their results at the Naval Station, Olongapo, P. I. Surgeon A. W. Dunbar, U. S. Army.

Incidence and Complications of Malaria in the Philippine Islands. Dr. Fred B. Bowman, biological laboratory, Bureau of Science.

The Incidence and Treatment of Malaria in Infants and Children. Dr. H. D. Kneedler, Manila.

Address, Doctor Staby, delegate from the Imperial German Government, Tsingtau.

Macroscopical Methods in the Typhoid Laboratory. J. R. Barber, first lieutenant, U. S. Army.

SIXTH SESSION.

DYSENTERIES; BERIBERI.

The Etiology of Beriberi. Dr. J. de Haan, delegate from Her Majesty's Government of the Netherlands Indies.

Etiology of Beriberi. Dr. H. Fraser, delegate from the government of the Federated Malay States, Kuala Lumpur.

Beriberi in Siam. Dr. H. Campbell Highet, delegate from His Imperial Majesty's Government, Siam.

The Incidence of Infantile Beriberi and Its Diagnosis. Dr. Jose Albert, Philippine Medical School.

Food and Metabolism in Beriberi. Dr. Hans Aron, Philippine Medical School.

The Bacteriology of Bacillary Dysentery in the Philippine Islands. Maj. Eugene R. Whitmore, U. S. Army.

Ipecac in the Prevention of Liver Abscess following Amœbic Dysentery. Dr. F. W. Dudley, Manila.

SEVENTH SESSION.

MISCELLANEOUS AND TUBERCULOSIS.

Statistics on Intestinal Parasites in the Philippine Islands, with Especial Relation to Intestinal Amœbæ. Dr. Y. K. Ohno, biological laboratory, Bureau of Science.

Mycetoma. Maj. A. Hooton, I. M. S., delegate from the government of India.

Infectious Diseases of the Intestine. Dr. Gorosaku Shibayama, delegate from His Imperial Japanese Majesty's Government.

Observations on Various Subjects of Tropical Medicine. Dr. Aldo Castellani, delegate from the government of Ceylon.

A Quick, Simple, and Accurate Method of Making Differential Blood Counts in Wet Preparations and its Advantages in the Diagnosis of Surgical and Tropical Diseases. Surgeon E. R. Stitt, U. S. Navy.

Tuberculosis Among Filipinos. (A) Study of 1,000 Cases. (B) Blood Pressure in the Tropics. Dr. W. E. Musgrave, biological laboratory, Bureau of Science, and Dr. Antonio Sison, Philippine Medical School.

Tuberculosis in the Philippines. Dr. Isaac W. Brewer, Medical Reserve Corps, U. S. Army.

Notes on Amœbæ at Baguio. Dr. F. W. Bowman.

EIGHTH SESSION.

CLIMATE, HYGIENE, AND SANITATION.

An Experiment with Orange-Red Underwear in the Tropics. Capt. J. M. Phalen, U. S. Army.

Unsolved Health Problems Peculiar to the Philippines. Dr. Victor G. Heiser, United States Public Health and Marine-Hospital Service, Bureau of Health.

Address on Climate, Hon. Dean C. Worcester, Secretary of the Interior.

The officers of the Far Eastern Association of Tropical Medicine for the first session were: Paul C. Freer, president; Francis Clark, general secretary-treasurer; James M. Phalen, local vice-president; Samuel C. Gurney, local secretary-treasurer; E. R. Whitmore, local acting secretary-treasurer.

The new officers for the second biennial session are: President, Dr. J. M. Atkinson, principal civil medical officer of Hongkong; secretary, Dr. Francis Clark, medical officer of health, Hongkong; local secretary-treasurer, Dr. Samuel C. Gurney, major, Philippines Constabulary; vice-presidents, Sir Allan Perry for Ceylon, Dr. Vassal for Indo-China, Dr. Stanton for the Straits Settlements, Dr. Victor G. Heiser for the Philippine Islands.

PHILIPPINE ISLANDS MEDICAL ASSOCIATION.

As the Far Eastern Association of Tropical Medicine held its first biennial sessions in Manila this year, the regular annual meeting of the Philippine Islands Medical Association was limited to a single business session which was held in the Philippine General Hospital March 12, 1910, when the officers for 1909–10 were reëlected to serve for 1910–11.

Preparations are now being made for a scientific session to be held probably in February 1911 soon after the close of the Carnival.

THE MANILA MEDICAL SOCIETY.

This Manila Medical Society is an organization of the qualified physicians of Manila and of the medical officers of the public services. It holds monthly meetings at which scientific programs are presented. At present it is the only component society of the Philippine Islands Medical Association and consequently admits out-of-the city members.

The past year has been one of the most successful in the history of the society. It has undertaken the publication of a monthly bulletin with a full complement of editorships. In addition to the editor in chief and the managing editor, there are editors for the departments of medicine and therapeutics, tropical medicine, surgery, pathology, hygiene, biochemistry and bacteriology, medical economics, and medical entomology and zoölogy.

LEGAL OPINIONS ON SANITARY ORDERS.

Several opinions pertaining to health matters have been rendered during the year by the Attorney-General, the most important being that of December 27, 1909, on what constitutes a legal sanitary order and that of April 25, 1910, on the question of whether municipal councils are empowered to enact and enforce ordinances compelling the owners or occupants of property to keep the streets adjacent thereto clean.

In the opinion first mentioned he held that an order substantially in the following form should be served on the owner or tenant of insanitary premises:

OFFICE OF THE...,
(Insert board of health of ....,
district health officer of ....,
or Director of Health for the Philippine Islands, as the case may be.)

....
(Insert place of issue.)

.................................., 19......
(Insert date.)

SANITARY ORDER.

To ....
(Insert name of owner or tenant of insanitary premises.)

You are hereby informed that .... (give approximate location of premises; describe what has been found insanitary; as, the closet of the building located at 301 calle Real, San Juan del Monte) has, upon due examination, been found insanitary. Pursuant to .... (name Act, ordinance, or regulation violated; as, Ordinance No. 10 of the municipality of San Juan del Monte), you are directed and ordered to .... (indicate what owner or tenant is to do; as, remove the said closet and establish in place thereof such a closet as shall be approved by this office). .... days from date are allowed for the fulfillment of this order. Failure to comply within such period will render you liable to prosecution.

....
(Official position of officer issuing order.)

Copy received: ....
(Insert date.)

....
(Signature of owner, tenant, etc., of insanitary premises.)

With reference to compelling the owners or occupants of property to keep the streets adjacent thereto clean; it was held that if an ordinance to that effect were reasonable, general, and not unduly oppressive, it could be lawfully enacted and enforced.

THE COMMITMENT OF THE INSANE.

Pending the passage of a law for the commitment of insane persons, the following procedure has been outlined by the Executive Secretary for the guidance of all concerned:

> Whenever it is desired that an insane person *who is not guilty of crime be* committed to the San Lazaro Hospital, a petition should be presented to the Court of First Instance having jurisdiction, for the appointment of a guardian for such person. The guardian so appointed should then apply to the Director of Health for the confinement of his ward in said Hospital. Upon advise from the Director of Health that accommodations are available, the insane person should be forwarded to Manila under proper guard, at either the expense of his estate, if any, or of the province or municipality concerned, if there be no estate, and delivered to the official in charge of the hospital, where he will be taken care of at the expense of the Insular Government.
>
> An insane person accused of crime, should of course, be brought before the court having jurisdiction, to be dealt with in accordance with law.

Statistics with reference to the number of insane persons in the Philippines will be found in another part of this report.

LEGISLATION.

In addition to the general appropriation Acts, the Philippine Legislature passed the following laws that concern this Bureau. The first was Act No. 1975, entitled "An Act to provide for the establishment of classes for the instruction and training of male and female nurses under the supervision of the Director of Health."

This Act states in part that—

> The Director of Health is hereby authorized, subject to the approval of the Secretary of the Interior, to establish classes of male and female Filipino students to receive instruction and training in nursing and hospital duties, said instruction and training to be given in the hospitals and sanitariums of the Bureau of Health and such other appropriate places as the Director of Health may designate and the Secretary of the Interior approve.
>
> In order to be admitted to any of the classes provided for in this section, it shall be a requisite condition—
>
> (*a*) To have completed the intermediate course in the public schools of the Philippine Islands and received a certificate therefrom; or
>
> (*b*) To be able to give evidence by examination or in any other manner satisfactory to the Director of Health that the applicant for admission has received preliminary training of equal or greater extent.
>
> The Director of Health, so far as consistent with the interest of the public service, shall select from amongst those persons jointly recommended by district health officers and division superintendents of schools, or in default thereof by provincial boards, students for the aforesaid classes from provinces organized under "The Provincial Government Act" and from the Provinces of Palawan, Mindoro, and Batanes, and the number of students selected shall not exceed thirty each year of each sex, nor one hundred in all of each sex: *Provided*, That in the admission of said students, the highest average obtained in the examinations referred to in subsections (*a*) and (*b*) of the next preceding section, shall be taken into account.
>
> The Director of Health may admit private students under such conditions as may be approved by the Secretary of the Interior: *Provided, however*, That they shall receive no compensation or allowances other than subsistence, quarters, and laundry. Students who were appointed to the course in nursing under the provisions of Acts Numbered Eighteen hundred and seventy-three or Nineteen hundred and thirty-one or those who have been admitted to an analogous training class in the Bureau of Health are hereby declared to have been duly appointed under this Act: *And provided further*, That the Director of Education may, up to July first, nineteen hundred and ten, subject to the approval of the Secretary of Public Instruction, issue the usual certificates or diplomas to those students whose experience, conduct, and services entitling them to same, shall have pursued their studies or rendered services prior to July first, nineteen hundred and ten, for two complete terms or years or more, and a certificate or diploma so issued shall have the same value as if it had been issued by the Director of Health under the provisions of section three of this Act.
>
> The course of study, period of probation, vacations, length of time required for graduation, granting of diplomas or certificates upon satisfactory completion of the course of training, rules of discipline, proportion of male and female students, rates of commutation for subsistence, quarters, and laundry, blank

forms, and preliminaries to admission except as hereinbefore provided shall be prescribed by the Director of Health subject to the approval of the Secretary of the Interior: *Provided, however,* That rules shall so far as possible be uniform for all students: *And provided further,* That no students shall be admitted who is suffering from any mental or physical defect or peculiarity that in the opinion of the Director of Health would disqualify him for the duties of hospital nurse or attendant, or whose moral conduct and antecedents are undesirable.

Students admitted under the terms of this Act shall receive quarters and laundry and adequate subsistence or commutation therefor at rates fixed as hereinbefore provided, in addition to an annual compensation of two hundred and eighty-eight pesos each as may be authorized by law: *Provided, however,* That the Director of Health may withhold such portion of their compensation, not to exceed one-sixth thereof, and deposit the same in the Postal Savings Bank to the credit of the student from whose allowance the deduction is made, for the purpose of purchasing such books and student equipment as may be necessary for him. Any unexpended balance shall be paid to the student upon graduation.

The next Act was No. 1981, entitled "An Act to provide for the establishment of a sanitarium at Sibul, San Miguel de Mayumo, Province of Bulacan, and for other purposes."

The construction of a sanitarium at Sibul, near the springs of the same name, situate in the municipality of San Miguel de Mayumo, Province of Bulacan, is hereby authorized and directed for the purpose of providing and maintaining an adequate service and to admit and provide accommodations for public officials and private parties. Subject to the recommendations of the committee hereinafter created, and to the approval of the Secretary of the Interior, the Consulting Architect shall prepare the plans for the said sanitarium and the Director of Health shall select the site of same.

There shall be at Sibul a resident physician, who shall be appointed by the Governor-General, with the advice and consent of the Philippine Commission, at a salary not exceeding four thousand pesos per annum. The said physician shall, in accordance with the orders and directions of the Director of Health, manage the bathing establishment, give advice, and if necessary, gratuitous attendance to the indigent sick, and have charge of the sanitarium when the same shall be constructed. The said physician shall designate the duties of the employees authorized and see that they properly perform the same and shall have in his charge, besides the sanitarium buildings of Sibul, such furniture, supplies, and other articles as he may receive for use in the said buildings. Pending the establishment at Sibul of a pharmacy he shall have in his charge the medicines sent him by the Director of Health and shall fill all prescriptions requested to be filled, for which services he shall collect a minimum charge of fifty centavos, and the proceeds from such services and all other funds that he may receive under this Act, shall be covered by him into the Insular Treasury.

This Act also carries an appropriation for straightening the esteros, the construction of a central park, public laboratory and closet at the springs; the opening and construction of streets, the erection of a pavillon and the improvement of the public highways.

The next Act was No. 1988, entitled "An Act making appropriations for public works and permanent improvements, and for other purposes."

This Act contains an item of ₱50,000 for the continuance of the construction of hospitals, bodegas, and additional houses to provide accommodations for lepers at Culion.

Act No. 1989, the general appropriation Act for the current years, makes the new Philippine General Hospital a division of this Bureau and provides for the abolishment of the Civil Hospital.

CEMETERIES.

Cemeteries outside of Manila are regulated by a special Act. while those in Manila fall within the legal prescriptions of the Sanitary Code of Manila, now incorporated in the Revised Ordinances.

The Bureau has also prepared and issued cemetery regulations which, having been approved by the honorable the Secretary of the Interior, as provided for in the Cemetery Act, have the force and effect of law. The regulations deal more especially with the proper administration of cemeteries while the law pertains more particularly to their establishment, continuance, and closure.

In settling cemetery matters it has been the policy of the Bureau to disregard personalities and political prejudices but they sometimes so obscure the facts that it requires the utmost caution to avoid becoming entrapped by the devices of factional quarrels.

Considerable progress has been made in the process of eliminating controversial petitions and voluminous correspondence by requiring that all applications shall be made on prescribed forms and that counterpetitions shall not deal in generalities.

Each application concerning cemeteries is made the object of personal investigation by the district health officer of the district to which it pertains.

During the fiscal year about 500 cemetery applications have been acted upon by this office, each case involving correspondence with the municipal council, the local health officer, the administrator of the cemetery, the district health officer and other interested parties. In the case of Catholic cemeteries, frequently correspondence is had with the bishop of the diocese in which such cemeteries are located.

In January of this year the following circular was sent out to all district health officers:

> It is desired that there shall be prepared and forwarded to this office not later than April 1, 1910, a list of the cemeteries in the respective districts showing the location of each cemetery by province, municipality, and barrio and stating the denomination of such cemeteries; that is, to what church, organization or ownership they pertain and whether they have been approved or not under Act No. 1458.
>
> This list should include both old and new cemeteries except those that are permanently closed and for which it can be positively stated that no application for their reopening will be made.
>
> By new cemeteries it is understood those that have been established since the passage of Act No. 1458, February 26, 1906.

From the replies received, a complete cemetery record is to be prepared and corrected from time to time as changes are made.

CEMETERIES IN MANILA.

The condition of the cemeteries in Manila have undergone great improvement during the past few years. The city cemetery known as the Cementerio del Norte, situated just beyond San Lazaro in the Province of Rizal, is one of the best-kept cemeteries in the Orient. The land has been filled in, sodded, and planted with trees.

The chief of the department of sanitation and transportation, who also has charge of the parks and of street cleaning, utilizes a portion of the cemetery as a nursery for the growing of trees for the parks and streets of Manila.

TRAINING SCHOOL FOR MALE NURSES.

For a considerable length of time it has been apparent that the necessity of having properly trained male attendants to take care of the male patients of all nationalities found in the Civil Government hospitals of the Philippines was a problem becoming more and more acute, and that at least an attempt at solution would shortly have to be made.

During the month of March of the present year, with the aid of the Bureau of Education, circulars of information with application blanks and credentials that had been prepared were sent to division superintendents of provincial schools, with most gratifying and unexpected results. In less than three months there were 229 eligibles on the waiting list. Accommodations being limited, the first class was started April 1, 1910, with 16 members. A few of the original number were released for various reasons and the vacancies immediately filled. Not any, however, have left of their own volition. A class of 30 will be organized September 15, 1910.

The aptitude with which these young men have taken hold of this entirely new and foreign work has amazed even the most sanguine supporters of the school.

It is confidently believed that there will soon be available a well-educated set of Filipinos, well trained both as nurses and sanitarians. It is intended to train them not only for hospital work but for the work of sanitary inspection and for positions on municipal boards of health. Since the transfer of the training school for female nurses from the Bureau of Education to the Bureau of Health, the two schools have been combined under Act No. 1975.

PHILIPPINE TRAINING SCHOOL FOR NURSES.

The training school for female nurses was organized under Act No. 1931 of the Philippine Legislature, and provided for a four years' course of training under direction of the Bureau of Education, the practical training being received in the Civil Hospital of the Bureau of Health. This division of training was soon demonstrated, however, as both impracticable and undesirable and by mutual agreement between the two Bureaus and by legislative authority the school was transferred to the Bureau of Health April 18, 1910. The Bureau of Education agreeing however to give the students accommodation at the girls' dormitory with the excellent care and supervision which these *pensionadas* had always received there. It is hoped, however, that as soon as the Bureau of Education vacates the present Normal School buildings, that dormitories can be established for both schools.

A new class of 30 women students will be started September 15, 1910. On June 9 there were 40 eligibles awaiting appointment to this class.

The training school for nurses, though of necessity conducted in conjunction with the Government hospitals, and, therefore, under the direction of the Bureau of Health, actually represents an educational movement. It is virtually a work of health education or health instruction with so many inevitable but interesting ramifications that it can well be believed that it is possible that its good results in one form or another will have spread to the limits of the Archipelago within the present generation.

With the foregoing idea in view, it has been deemed advisable to modify the course originally outlined by the Bureau of Education, enlarge its scope, broaden the curriculum, raise the educational standard, and give less theory and more practice than formerly.

The object sought is to give a practical training that can be of use to the students at once in their homes whether they continue to follow their chosen profession or not. To apply the laws of hygiene and sanitation to ordinary living conditions of provincial life, to take care of the sick without expensive and unattainable hospital equipment, to prepare properly for the sick the food which is available in isolated districts and within financial reach of the poor, for it is along such lines that they must be educated if the work is to have a practical and far-reaching application.

A circular has been issued setting forth the various features of the school in detail. No arbitrary time has been set for the completion of the course of training. The elasticity of this arrangement is believed to be very desirable. Every three months' work must be satisfactorily completed or it must be repeated. By these means an apt pupil can get through in the prescribed time and not be handicapped by less apt classmates. The slower ones may be many months or a year longer in completing the same work, but no one can be graduated except with satisfactory standing. Proficiency in English is an emphasized feature.

The preparatory period provides for instruction in practical invalid cookery, serving of trays to the sick, practical marketing, computing the the cost of dietaries, etc.; the checking of linen supplies and accounts, marking, sorting, and mending of linen; household management, economy and cleanliness, embracing direction of servants, waste-can inspections, practical ways of keeping hospital equipment clean and in good condition; supply-room service, with ordering, distribution, and checking of supplies, keeping of card systems in connection therewith; the making of hospital bandages and other appliances.

After the successful completion of the foregoing, pupils will be admitted to the wards and the first year's work divided approximately as follows: Medical wards, six weeks; surgical wards, ten weeks; pharmacy, six weeks; dispensary, six weeks; emergency and surgical-dressing room, six weeks; operating room, eight weeks; for female nurses, maternity wards, eight weeks; for male nurses genito-urinary ward, four weeks; office, four weeks; vacation, two weeks. Total fifty-two weeks.

The senior year will be divided approximately as follows: Private wards, six weeks; contagious, six weeks; nervous and insane, four weeks; orthopedic, four weeks; X-ray, three weeks; hydrotherapy, 3 weeks; tuberculosis, six weeks; visiting nursing, eight weeks; special nursing (private cases) six weeks; for female nurses, children's day nursery, three weeks; for male nurses, office, three weeks; vacation, three weeks. Total fifty-two weeks.

Students will be urged to take post-graduate courses along lines for which they have displayed unusual ability or interest. For the young men these courses will embrace public lecture work, school instruction, sanitary inspection, municipal health work, etc. For the young women they will include lecture work, school-instruction ward, hospital administration, and visiting nursing.

If the work can be carried out along the lines planned for, it is believed that it will be one of the most far-reaching and useful branches of educational work yet put before the Filipino people. The enthusiasm with which it has thus far been greeted by those truly interested in the progress of the country has been most encouraging.

DISTRICT FREE DISPENSARIES.

It is sincerely to be hoped that with the adoption of the training school for nurses, a new and much-needed work may be definitely started in Manila within the coming year. The establishment of the dispensaries in thickly populated quarters of the city where not only the sick can come for medicines but where the sick and well can come for instruction and information regarding questions of hygienic living. These dispensaries should be under the supervision of American nurses but with the actual work done by pupil nurses. The work should include lectures on certain days given in the native dialects, concerning the subject of tuberculosis, beriberi, cholera, dysentery, hookworm, and other diseases prevalent among the people. It should include demonstrations in the bathing, feeding, and care of the sick, with simple instruction in elementary nursing and emergency treatments; it should include cooking of native foods for the sick and well; it should particularly deal with maternity cases, tending to abolish and discredit the superstitious and inhuman practices now in vogue, with simple demonstrations and talks as to hygienic and proper procedure in such cases. Particularly should it deal with the proper feeding of infants, and in this connection experiments with goats' milk for infant feeding might well be demonstrated to the mothers, with comparative statements as to cost, nutritive and digestive properties in comparison with other milks and foods.

In all features of this work, no more equipment in the way of utensils and materials should be used for instruction than is to be found in the ordinary nipa shacks of the poor. To adapt modern and sanitary principles to actual conditions should be the aim.

Visiting nursing should be done to some extent if only to keep the health officials informed as to where disease is lurking, where prospective maternity cases are waiting, and whenever possible to induce these patients to enter the hospitals where they can be properly treated. If homes were regularly visited and inspected by nurses for cases of insanitary practices, neglect of premises and interiors, and if suggestions were tactfully given for the improvement of the same by one of their own nationality, it is believed that the effects would more quickly be felt and seen than by any other method.

NATIVE FOOD PRODUCTS.

In roughly planning the curriculum of dietetics, instruction for the nurses' training school and also in planning a self-supporting tuberculosis camp where educated Filipinos might be cured by hygienic and prophylactic measures, consisting principally of simple nutritious feeding, the question at once presented itself, Can the sick (and the well) of these Islands be adequately nourished if expensive canned goods are eliminated from the dietaries? Preliminary investigation was made principally among those teaching domestic science in the public schools, but it was found that very little use was made of native food products there, and that no one person seemed to have much information on the subject. Further effort was then made and with the generous assistance of several persons in the Bureaus of Science and Forestry, a very surprising and creditable list of native food products, both vegetable and animal, was compiled. This is by no means completed but is constantly to be added to.

The work was most interesting and led to the preparation of a series of papers read by the supervising nurse, Miss McCalmont, before the Teachers' Assembly at Baguio during the last week of April, 1910. The purpose was to interest the teachers in teaching along more practical lines, to show them how dietaries could be balanced, made nutritious, and kept within financial reach of the poorer classes. The teachers were urged to abandon the present methods of teaching the cooking of elaborate cakes, pastries, and of expensive American dishes, substituting the preparation of native foods which are available and comparatively inexpensive in the provinces.

Charts were shown (the valuable work of Dr. Hans Aron, of the Philippine Medical School) setting forth a number of balanced dietaries, demonstrating how a satisfactory diet may be secured for 10 centavos a day with considerable variety in the diet.

Other charts were exhibited showing a long list of native animal and vegetable foods, giving of the latter the common name, the botanical name, the Tagalog or Visayan name, after which a brief description of each was read, giving the general nutritive value, the habitat, and various methods of preparation.

It is the intention to develop this work and later publish a simple book of recipes in several of the most general native dialects, giving balanced dietaries, showing the cost and proper preparation of foods suitable for families of varying incomes. The work would have to be based upon scientific principles, so hidden, however, that it would only reach the person for whom intended in a most simple and practical form. Economy of fuel should also be made a feature with practical demonstration of the fireless cooker—an easily made and inexpensive contrivance within reach of the poorest.

STUDIES IN INFANT MORTALITY.

The excessive infant mortality of Manila has been an acknowledged fact for years. Various causes have been assigned and various remedies suggested.

The essential thing was to study the alleged factors of this mortality and find out the real causes. During the past year, work along this line was undertaken by Dr. Allan J. McLaughlin, Assistant Director of Health, and Dr. Vernon L. Andrews, assistant professor of pathology, Philippine Medical School.

Their results which were presented before the Far Eastern Association of Tropical Medicine in March, 1910, throw new light upon the real factors of infant mortality and in view of the paramount importance of this question it seems advisable to print their article in full under its original title, "Studies in Infant Mortality":

The death rate among Filipinos in Manila, as shown below, is excessive compared with that of other nationalities, after making due allowance for the higher birth rate, greater proportion of children, and other factors.

TABLE I.—*Death rate in Manila by nationalities, per thousand, during the year 1909.*

	Per cent.
Spaniards	12.05
Americans	13.27
Other Occidentals	14.32
Chinese	16.64
Filipinos	47.65

This enormous death rate is due to the high mortality of children. Of 9,307 deaths among the Filipino population, 6,041, or 64.9 per cent, were of children under 5 years of age, and 4,512, or 48.8 per cent, were of infants under 1 year of age.

TABLE II.—*Rate of infant mortality to total number of deaths.*

Total number of deaths, all ages	9,307
Total number of deaths under 5 years	6,041
Total number of deaths under 1 year	4,542
Rate of deaths under 1 year to total number .... per cent	48.8

Compare this infant mortality with that of other countries and the result is striking. According to the United States census of the year 1900, the deaths of children under 1 year constitute 18.28 per cent of the total mortality; in France, from 1896 to 1900, the infant mortality constituted 20 per cent of the total, but in Manila the deaths of infants under 1 year aggregate 48.8 per cent of the total number.

TABLE III.—*Rate of deaths of children to total number of deaths, in percentage.*

	Per cent.
United States	18.28
France	20.00
Manila	48.8

In order to combat intelligently this appalling infant mortality, it is essential to determine accurately what diseases really constitute the greatest factors and these investigations were undertaken with that end in view.

According to the statistics of the Bureau of Health, the main factors in child mortality for the fiscal year 1908–9, a fairly representative year, were the following:

TABLE IV.—*Factors in the mortality of children in Manila.*

Cause of death.	Numer of deaths of children under—	
	1 year.	5 years.
Convulsions	1,615	1,615
Congenital debility	596	596
Beriberi	595	629
Acute bronchitis	569	689
Acute meningitis	287	510
Enteritis	286	745
All other causes	594	1,257
Total	4,542	6,041

It was necessary to verify these statistics. The figures for the total number of deaths were undoubtedly correct, but the causes given in the death certificates were demonstrated frequently to be incorrect and indefinite.

In a previous paper, one of us presented some observations upon cholera in children during the period from August 1 to September 25, 1909, and among the conclusions deducted from those observations were the following:

"1. Cholera in children is often unrecognized and unreported as such, the diagnosis being reported as acute or chronic enteritis, gastroenteritis, enterocolitis, dysentery, acute or simple meningitis and probably also as infantile beriberi, convulsions of children, and some other forms of disease.

"2. Cholera in children is often atypical, and in these cases diagnosis is extremely difficult, if not impossible, without bacteriological examination of the intestinal contents.

"3. Cerebral manifestations in children suffering from cholera are very common and their severity is in inverse to the age of the child.

"4. Acute meningitis is a very rare disease in Manila, in spite of statistics.

"5. The percentage of children attacked by cholera is higher than is shown by statistics."

In our work we are able to confirm the conclusions expressed above in regard to meningitis and cholera, and to present additional data bearing upon infantile beriberi, convulsions of children, enteritis, bronchitis, and broncho-pneumonia. The clinical history as gleaned from the family or attending physician is given in the tables. These histories are meager and are not always reliable, owing to the fact that the case is often seen late in the disease and to the difficulty of getting correct data from the family. However, it is unlikely that all the histories are unreliable, particularly as the unanimity is so marked.

In all cases of meningitis, beriberi, convulsions, and bronchitis the necropsy findings are given. In the cases of enteritis and dysentery, necropsies were not performed in every instance, and confirmation of the diagnosis of Asiatic cholera was secured by bacteriologic examination of the intestinal contents at the Bureau of Science.

ACUTE MENINGITIS.

The following table shows the deaths from acute meningitis in Manila by months for the past nine years:

TABLE V.—*Acute meningitis in Manila from 1901 to 1909, inclusive.*

Month.	1901	1902	1903	1904	1905	1906	1907	1908	1909
January	26	21	17	25	28	22	23	78	33
February	24	21	14	26	16	23	23	92	32
March	56	28	17	24	26	30	22	41	34
April	21	25	14	25	34	32	28	81	27
May	29	50	30	32	24	35	37	35	24
June	22	54	13	47	27	40	23	45	48
July	15	34	17	51	31	95	27	93	31
August	27	39	36	40	34	70	34	64	40
September	33	25	43	49	58	40	53	62	27
October	28	84	41	50	32	25	58	54	4
November	25	29	33	30	24	26	43	46	2
December	25	32	26	36	24	30	50	45	3
Total	331	392	301	435	358	468	421	689	305

Average number of cases per year, 410; average number of cases per month, 34.

These statistics cover nine full years, and from them it will be noticed that the average number of deaths from meningitis in Manila was about 410 per year, or 34 per month. The investigation by necropsy of children dead from alleged meningitis began the last week of September, 1909. The number of deaths from meningitis recorded for October dropped to 4, for November to 2, and for December to 3.

Table VI shows the cases of alleged acute meningitis which came to necropsy, together with the clinical data and pathologic findings.

The following is a summary:

Summary of Table VI.

Acute meningitis	2
Pneumonia	2
Empyema	1
Beriberi	10
Cholera	18
Undetermined (not meningitis)	3
Enterocolitis	1
Total	37

ACUTE ENTERITIS AND OTHER DIARRHEAS.

Table VII gives an analysis of a number of cases of alleged enteric disease.

We wish to emphasize the fact that diagnosis in these cases was difficult, or impossible from the clinical symptoms and that the examination of the intestinal contents should be compulsory in all children acutely sick in Manila. In these instances the classical symptoms of cholera were either absent or overlooked, because of their transient character. Sometimes the choleraic signs present were masked by intercurrent diseases and the predominance of cerebral manifestations.

Summary of Table VII.

Cholera	15
Beriberi	2
Pneumonia	2
Enterocolitis	3
Total	22

INFANTILE CONVULSIONS.

The diagnosis "infantile convulsions" should not be accepted as a cause of death. It is only a symptom of some specific disease and has no more right to a place in statistics than fever or chills. Table VIII, shows the results obtained from investigations by necropsy of cases of alleged infantile convulsions, with clinical data and pathologic findings.

Summary of Table VIII.

Beriberi	31
Cholera	4
Pneumonia	1
Enterocolitis	1
Empyema	1
Cerebral hæmorrhage	1
Undetermined	1
Total	40

The importance of securing correct diagnoses in the cases reported as dying of infantile convulsions is at once evident in view of the fact that 35 per cent of the total mortality under 1 year is given on the death certificates as being due to this cause. In accepting these reports we admit that the real cause of 35 per cent of the mortality in Manila of infants under 1 year of age is unknown to us.

BRONCHITIS.

Table IX shows the results of necropsies on 27 cases in which the death certificate gave acute or chronic bronchitis, or broncho-pneumonia as the cause of death. Some of the bodies were in bad condition when they came to autopsy, owing to warm weather supervening and the difficulty of transferring them to the morgue with sufficient promptness.

Summary of Table IX.

Beriberi	14
Pneumonia	6
Meningitis	2
Nephritis	2
Chronic colitis	1
Acute tonsilitis, pharyngitis, and bronchitis	1
Undetermined	1
Total	27

INFANTILE BERIBERI.

Table X gives the results in cases of alleged infantile beriberi. The first cases of so-called infantile beriberi which we investigated in November proved to be of Asiatic cholera, and we were at that time somewhat doubtful of the existence of the former disease in infants and rather expected that our experience with alleged acute meningitis would be repeated. Further study showed that a large number of infants die of a disease which presents a definite pathologic picture for which we know no better name than "moist beriberi."

Summary of Table X.

Beriberi	40
Cholera	3
Broncho-pneumonia	3
Enterocolitis	1
Undetermined	3
Total	50

In the pathological entity which we have called "beriberi" we come face to face with one of the real factors in Filipino infant mortality. This disease is responsible for many more deaths than would appear to be the case from statistics. We have found not only that many instances of alleged congenital debility and convulsions are due to beriberi, but also acute bronchitis and pneumonia. It is our opinion that the two diseases last mentioned are not common, and an investigation of deaths from acute bronchitis and broncho-pneumonia shows many of them to be due to beriberi.

The clinical symptoms of dyspnoea and cardiac embarrassment are often responsible for a diagnosis of bronchitis, or broncho-pneumonia, when the necropsy reveals the picture of beriberi. While we recognize the fact that bronchitis is a disease of childhood and old age, we hardly think that the figures as given in Table IV for bronchitis state the truth. It seems to us that the number of children under 1 year is too large and that the difference between 1 year and 5 is too small. True, it is in early infancy that the disease is most marked and it is more prevalent in squalid homes and among poorly nourished infants than elsewhere, yet we doubt if this would account for the figures as given.

A summary of the 176 cases studied is given in Table XI.

TABLE XI.—*Showing the number of cases investigated, together with clinical diagnoses and necropsy findings.*

CLINICAL DIAGNOSES.		NECROPSY FINDINGS.	
Meningitis	37	Cholera	40
Enteritis	22	Beriberi	97
Convulsions	40	Pneumonia	14
Beriberi	50	Enterocolitis	7
Bronchitis	27	Meningitis	4
		Nephritis	2
		Empyema	2
		Acute tonsilitis, pharyngitis and bronchitis	1
		Cerebral hemorrhage	1
		Undetermined	8
Total	176	Total	176

The great discrepancy between the clinical diagnoses and the autopsy findings can partially be explained by the fact that in many instances the native doctor is not called to see the patient until the latter is moribund, or, in some cases, until after death, and the family want a death certificate signed.

In 1898 and 1900, Professor Hirota, of Tokyo, described a disease found in some infants brought to his clinic, which he called infantile beriberi. A few years later, 1905 (?), the native doctors of Manila and the Philippines accepted Hirota's findings and began signing death certificates giving the cause of death as infantile beriberi. So far as the writers know, no effort was made by the native physicians to establish by necropsy any relation between the findings of Hirota in Tokyo and the disease called infantile beriberi by the Filipinos. For some reason, the subject has never been taken up by the American physicians in the Islands, owing, possibly, to the fact that they do not come in contact with the poorer Filipinos, and hence are never called upon to treat them. In the various hospital dispensaries the children are looked after by the native doctors. A number of Filipino physicians have recognized the condition here and one has described a typical case with necropsy.

In the pathologic entity which we have termed "infantile moist beriberi," and for which we know no better name, we find the following conditions:

The body is that of an apparently well-nourished infant, plump; skin is usually pale and anæmic. The face is full with almost a swollen appearance. Flesh of thighs and legs is soft and flabby and, as a rule, pits on deep pressure. Occasionally the skin has a tough, leathery feel, a leaden color, and a slight goose-flesh appearance.

Subcutaneous fat is present, apparently in good amount, grayish-white in color and very moist; muscles are anæmic. Owing to the œdema, the real amount of fat present is deceptive and hence the bodies may not be as well nourished as they appear.

Most often there is an increase of peritoneal fluid, which has a distinct yellowish color.

Heart.—The pericardial sac is filled with a clear fluid, having a greenish tint. Probably the most striking and constant change is found in the right heart. Its musculature is coarse and firm and forms much the larger part of the organ, even in the contour of the apex. Its trabeculæ and papillary muscles are prominent, while its cavity is enlarged. The wall of the right ventricle may measure from 5 millimeters to 7 millimeters in thickness, whereas the left measures only 3 millimeters to 5 millimeters. The musculature of the left heart is soft and flabby and darker than that of the right. The blood vessels of the heart are congested and prominent and frequently a few hæmorrhages show along the auriculo-ventricular junction. In many cases the foramen ovale is still patulous, but is competent.

Lungs.—These organs are a light pinkish-gray anteriorly and a light purplish-gray posteriorly. They fill the pleural cavities and crepitate throughout. The anterior part of the lung is lighter and more fluffy than the posterior. Few or many petechial hæmorrhages may show beneath the visceral pleura, especially along the junction of the lobes. Occasionally there is a slight increase of the pleural fluid.

A cut section shows a pinkish-gray surface, which may or may not exude some blood. Air can be expressed from all portions of the lung and usually also a slight amount of œdematous fluid. The posterior part of the lung is of a darker color and is heavier than the anterior and more fluid can be expressed from it than from the anterior part. The bronchi do not appear to be hyperæmic, but contain more or less frothy material and mucus. Sometimes this can be expressed from the smaller bronchi.

Spleen.—This organ may be very hyperæmic and show slight increase of splenic tissue, partially obliterating the normal markings.

Kidneys.—The kidneys are of a reddish-gray color, fœtal lobulations are prominent. A cut section is very moist and a considerable amount of blood oozes from it. Striations of the cortex are plainly seen. Except for congestion, the kidneys, in the greater number of cases, present a normal appearance. Occasionally a slight degree of albuminous degeneration or a few subcapsular hæmorrhages occur. The adrenals show congestion.

Liver.—The liver is dark reddish-brown in color and firm. Section shows congestion and rarely a slight "nutmeg" appearance is seen. The lobulations are usually clearly defined. Here, also, we may find some albuminous degeneration.

Stomach.—The stomach nearly always contains some curdled milk and mucus. The mucosa is smooth and anæmic. No rice or other artificial food was found in the stomachs of any of the cases; sometimes there is a trace of fæcal material present.

Intestines.—They are normal in appearance. The intestinal contents are semiliquid, apparently digested and have a yellow color. The mesenteric glands may be slightly enlarged and soft.

Urinary bladder.—It may or may not contain urine.

Throat organs.—Except for some froth and mucus present in the larynx and trachea, these organs are normal.

Thymus.—The thymus is usually prominent and full. Some milky fluid can almost always be expressed from the cut surface.

Meninges and brain.—The meninges are congested and œdematous, and there is usually an increase of the cerebrospinal fluid. The brain substance may be of normal consistency, or soft and very moist.

Many of the bodies were not subjected to necropsy until twenty-four or thirty-six hours after death, because of our inability to transport them to the morgue at a sufficiently early time, and in this warm climate decomposition very rapidly sets in. However, in the above description of the gross pathology three points are prominent: First, the dilated and hypertrophied right heart; second, the congestion of all internal viscera; third, the anasarca. The two last conditions naturally follow the first, and we turn to the lungs for a possible explanation. Microscopically they present a varied condition, being in part emphysematous and the more dependent portions being heavily congested, with the alveoli filled with epithelial cells, leucocytes, and granular œdematous material. In some places small hæmorrhages have occurred and the red cells are found in the alveoli and tissues.

In this paper we do not attempt to give the etiology of the condition. A microbic origin for it is not excluded, as we have not been able to enter upon this phase of the investigation because of the length of time elapsing between the death of the patient and the time of necropsy, and the press of other work; but if the condition is of microbic origin, its manifestation is entirely different from that produced by other organisms that we know. There is no inflammatory focus in the lungs or elsewhere.

Clinically, the cases were not seen by either of us, and all the information we have was obtained by the medical inspectors and is contained in the tables. The inspectors give the history that the patient is sick but a few hours, or, at most, but a day or two. The parents, however, do not recognize that the child is ill until its condition is very serious or until it is almost dead. The probability is that it has been ailing for some time, possibly since its birth.

Nearly all the infants examined were under 2 months of age, and but few were above 2½ months old. Almost without exception they were breast fed, and in no case was rice or other artificial food found in the stomach. The mothers in nearly all instances exhibited some symptoms of beriberi. Many of them give the history of having two, three, or even five or more children die from similar symptoms. The disease is well known among the native poor, who call it "taon" or "suba" (probably the latter is the more common name), and who dread it very much.

In a careful analysis of the pathologic findings by necropsy in a series of 219 infants dying under 1 year of age, we found the above-described condition, which, for want of a better term, we have designated as "moist beriberi," to be present in 124 cases. The following summary gives an analysis of all of those cases.

Table showing results of necropsies on 219 infants 1 year of age or under.

Beriberi	124
Cholera	33
Pneumonia	18
Meningitis	6
Enterocolitis	6
Other diseases	20
Undetermined [1]	12
Total	219

This table includes all the cases discussed in the preceding investigations under the headings meningitis, enteritis, convulsions, bronchitis, and beriberi, excepting a few cases of meningitis over 1 year of age, which were excluded. The total was increased by including some necropsies made during March and April, after the other investigations were concluded.

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[1] In some of the undetermined cases the findings were obscured by post-mortem decomposition; other bodies were greatly emaciated and death seemed to be due to a lack of assimilation of food.

The table indicates that "beriberi" (?) is the largest factor in the infant mortality of Manila, and the existence of this factor accounts in great measure for Manila's excess in infant mortality over that of other countries, as shown in Table III. Cholera appears because the investigations were begun during a mild epidemic of that disease in Manila. Tubercular meningitis was found twice and tuberculosis of the lungs once. This does not indicate the measure of the prevalence of tuberculosis among Filipino infants, as deaths from this disease were not investigated.

GENERAL CONSIDERATIONS.

The infant mortality of Manila presents a striking contrast to that of other cities. The deaths of breast-fed children constitute 73.74 per cent of the total infant mortality; furthermore, 87 per cent of infants dying of beriberi and convulsions in Manila are breast fed. The following table shows the figures as compiled in the Bureau of Health for the year ending February 25, 1910:

TABLE XII.—*Showing per cent of deaths among breast-fed infants under 1 year, by disease.*

Disease.	Number of certificates stating how fed.	Number breast fed.	Per cent of breast fed to total reported on.
Beriberi	473	417	88.1 +
Convulsions	872	763	87.5
Acute bronchitis	615	469	76.2 +
Congenital debility	381	218	57.2 +
Meningitis	134	75	56 —
Enteric disease	201	70	34.8 +
Other diseases	722	494	68.4 +
Total	3,398	2,506	73.74+

In Munich, of 4,000 dead infants during 1903, 83 per cent were artificially fed; in Berlin, in a period of five years, only 9 per cent of the infant mortality occurred in breast-fed babies.

TABLE XIII.—*Showing per cent of total infant mortality which occurs in breast-fed and artificially fed infants in different cities.*

City.	Breast fed.	Artificially fed.
	Per cent.	*Per cent.*
Berlin	9	91
Munich	17	83
Manila	73.74	26.26

Tugendreich states that in 64 families with 388 breast-fed children there had been 77 deaths, a mortality of 19.8 per cent. On the other hand he found that 33 families with 229 bottle-fed children had 99 deaths, a mortality of 43.2 per cent. Twenty-four of the 64 families with 109 exclusively breast-fed children escaped without a single death, while not one of the 33 families with bottle-fed children escaped without the loss of at least one child. In other countries the mortality among breast-fed infants is very low.

In Germany, France, or the United States a breast-fed infant means a healthy infant in 90 per cent of the cases, because the mothers in those countries are usually healthy and well nourished. In the Philippines the mortality is greatest among breast-fed children, possibly because of the poor quality of the mother's milk. The latter is probably deleterious by reason of what it lacks rather than because of any harmful constituent. The average Filipino mother is in poor physical condition, many of them have beriberi and subsist upon a diet favorable to beriberi. It seems probable that there is an intimate relation between beriberi of infants and a mother's milk poor in quality and lacking certain necessary elements which are not included in the mother's dietary. At first glance it might seem advisable to supplant breast feeding by artificial, but under existing conditions this would be a blunder. The children saved from beriberi would be sacrificed to enteric diseases. That small part of our infant population which is artificially fed furnishes 65 per cent of the deaths from enteric diseases, and the breast-fed, much the larger part of the population, furnishes but 35 per cent of the infant mortality from this cause; so that even in Manila, breast-feeding of infants exerts a deterrent influence upon the mortality from gastro-intestinal diseases. A possible solution of the problem lies in improving the quality of the mother's milk and encouraging the continuance of the custom of breast-feeding so general among the Filipino poor. The improvement of the physical condition of the Filipino mother and of the quality of her milk is an economic question. Her condition is the result of poverty and therefore insufficient and unsuitable food, especially during the periods of pregnancy and lactation.

However, it must be remembered that the etiology of this disease is unknown. Clinically, the cases must be observed by competent men under favorable conditions where a complete clinical record can be made. The sick ones should be taken to a hospital where they can be studied carefully and all laboratory and biologic tests applied. The careful examination of all body fluids and excreta, biologically and chemically, is imperative. Further, the possibility of an ultramicroscopic organism must not be overlooked, neither should the internal secretions be forgotten. At the same time, a thorough chemical and biologic examination of the mother's milk is essential. At death a quick necropsy with complete biologic examination must follow. This would also give material for thorough histologic study, which has been impossible so far because of postmortem changes.

The writers wish to extend their thanks to Dr. H. Winsor, of St. Paul's Hospital, for performing some of the autopsies.

BIRTH RATES.

In the city of Manila, the American birth rate was 22.99 per thousand. These are the only birth records that may be accepted for their full value. When the number of unmarried American men in the Government service is taken into consideration, it will be seen that there is no marked tendency toward race suicide on the part of American families in Manila.

The following rates, which are all probably less than they should be, are reported for the other nationalities:

Filipinos, 45.87; Spaniards, 16.93; Europeans other than Spaniards, 29.50; Chinese, 2.83.

The general rate based on the reported figures is 42.29 per thousand.

While great improvement has been made the facilities for obtaining prompt and accurate information concerning births are still inadequate. A few years ago the reported rate among Filipinos was always less than 30 per thousand. For the present year it is nearly 46 which is considerably below the true figures.

BERIBERI.

Several of the late quarterly reports of the Bureau of Health have shown that Fletcher and others in the Malay Peninsula brought forth considerable evidence that rice that was heated with water before being husked did not produce beriberi, while the ordinary machine-hulled or so-called Siam rice did apparently produce the disease.

Recently the work of Fraser and Stanton in the Straits Settlements and almost coincidently that of Aron, of the Philippine Medical School, have shown that outbreaks of beriberi may be caused by the continuous consumption of polished rice, and that is probably due to the fact that much of the phosphorous that is present in the pericarp is polished away in the milling process and thus the human organism is deprived of a requisite amount of this element. This after being experimentally confirmed in chickens, was later confirmed in human beings by feeding polished and unpolished rice to a group of railway workers in the Straits Settlements.

The group of men that partook of the No. 1 polished white Siam rice developed beriberi within a period of approximately sixty days, while the group that partook of unpolished rice remained free of the disease. Every effort was made by interchange of clothing, by contact, and by living in the same houses, to convey the disease to the group that partook of the unpolished rice but not a single case developed. The process was then reversed. The group that partook of the polished rice were changed to the unpolished rice and vice versa, and within a period of approximately sixty days the group partaking of polished rice developed beriberi. These experiments were further confirmed in Manila by the use of rice polishings in the treatment of beriberi patients, who showed immediate improvement in their condition and, except when the disease was too far advanced, promptly recovered.

By the application of the knowledge thus obtained an outbreak of beriberi at the Culion leper colony which had resisted the ordinary method of treatment was completely eradicated in a few weeks' time. Similar results were reported by Doctor Highet, of Siam, and Doctor de Hann, of Java, using the same treatment.

The foregoing facts were presented in brief form to the honorable the Secretary of the Interior with the recommendation that His Excellency the Governor-General be asked to issue an executive order prohibiting the use of polished rice as a staple article of diet in Government institutions. This recommendation was favorably acted upon by the Governor-General and the following executive order issued:

EXECUTIVE ORDER No. 37.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS,
EXECUTIVE BUREAU,
Baguio, May 4, 1910.

In view of the fact that the Director of Health has reported to the undersigned that for some years past considerable experimental evidence that beriberi was caused by the consumption of certain kinds of rice has become available, and that at the recent meeting of the Far Eastern Association of Tropical Medicine held at Manila Doctors Fraser, and Stanton, Kanla Lumpur; Aron, of the Philippine Medical School; and Highet, of Siam, produced additional evidence that showed almost conclusively that beriberi can be caused by the continuous consumption of polished rice, and in view of the further fact that much beriberi has been encountered in the past in Government workshops, in prisons, and in other public institutions; upon the recommendation of the Director of Health and the honorable the Secretary of the Interior the use of polished rice in all public institutions is hereby forbidden.

All Insular, provincial, and municipal officials having control of public institutions, such as workshops, prisons, and so forth, are hereby directed to see that the provisions of this executive order are complied with in the institutions under their control.

W. CAMERON FORBES,
Governor-General,
By THOMAS CARY WELCH,
Acting Executive Secretary.

It is hoped by the means of this order not only to eradicate the disease from such places but also that it may serve as an educational factor in disseminating knowledge as to the methods by which beriberi may be avoided.

The theory that beriberi is caused by the continuous consumption of polished rice as the staple article of diet has received further confirmation from the recent experience at the Culion leper colony. Since the opening of the colony in 1906 good grades of polished rice were always used, and beriberi has been more or less constantly present during the entire time that the colony has been in existence. From time to time adding more meat and vegetables to the rations and reducing the amount of rice improved the situation and the disease almost completely disappeared but its complete elimination did not seem to be possible until the use of polished rice was entirely discontinued. As stated in the quarterly report for the first quarter of 1910, during the month of March the use of red rice or "pinawa" was begun and beriberi had practically disappeared by the end of the quarter. The use of the same kind of rice has been continued and it is satisfactory to report that at the close of the fiscal year the disease has completely disappeared among the regular inmates of the colony. A few cases have been encountered but they occurred among persons who had but recently been transferred to Culion.

CHOLERA.

On account of the great importance of cholera in the Philippine Islands and as the experience of Professor Haffkine corroborates the findings of the Bureau of Health in September and October, 1908, at Bilibid Prison in showing the importance of the bacilli-carrier, it is deemed advisable to reproduce the following statement made by the Indian Government on an outbreak which occurred at the Presidency General Hospital in Bengal:

THE HOSPITAL CHOLERA—GOVERNMENT STATEMENT.

1. *Cause of outbreak.*—The following press communique has been issued by the government of Bengal municipal department, medical branch, regarding the recent outbreak of cholera at the Presidency General Hospital.

2. The first case of cholera (that of a nurse) was reported on the morning of the 30th July, and 11 cases in all occurred on that day and 2 on the morning of the 31st. Six deaths resulted among the nursing staff, while 3 patients (children) in the Alexandra ward and a sweeper also succumbed to the disease. All the cases occurred within thirty hours of the first attack, and so virulent was the infection, that in the fatal cases death ensued as a rule in less than twenty-four hours, even though treatment was commenced immediately. The disease subsided as suddenly as it arose. No case occurred after midday on the 31st, nor did the infection spread to any patients outside the Alexandra ward.

3. On the morning of the 31st Mr. Haffkine, with the assistance of Captain Clemesha, I. M. S., deputy sanitary commissioner, and Doctor Pearse, health officer of Calcutta, conducted a searching inquiry into the circumstances of the epidemic, and Mr. Haffkine has subsequently made a laborious examination of the various samples of food, etc., which were then collected.

4. *Nurses' meals.*—In order that the course of the inquiry may be understood, it is necessary to describe the arrangements made for the nurses' meals.

There is a central kitchen attached to the nurses' quarters, and in this all the food supplied to nurses is cooked. Owing to the exigencies of night duty two dinners are served on some days, one at 3 p. m. for those who will go on night duty and one at 7 p. m. for those on duty in the wards or resting in the quarters. These two meals are, as far as possible, cooked at the same time; that is, puddings, soup, etc., are made in one batch for the two meals. The meals for the nurses in the quarters are served in the nurses' dining hall, while those for the nurses on duty are carried over to the dining rooms in the main block or in the Woodburn ward, and served there. The 3 p. m. dinner and the 7 p. m. dinner in the nurses' dining hall, the 7 p. m. nurses' dinner in the main block and the 7 p. m. nurses' dinner in the Woodburn ward are supplied from the same stock and one series of culinary operations covers them all.

5. As already stated, the persons attacked were (*a*) nurses, (*b*) 3 children in the Alexandra ward, and (*c*) a sweeper; of the affected nurses some dined in the dining hall, some in the dining room of the main block, and some at the Woodburn ward. All partook of the 7 p. m. dinner on Wednesday, July 28. The sweeper was attached to the Woodburn ward, and it was his perquisite to receive the spare or broken food from the nurses' table. It is reported that he received some such food on the 28th evening. The menu for the 28th July was as follows: Devilled tongue, roast veal, stewed fruit, custard sauce, cheese.

6. *Sources of infection.*—The conclusion arrived at is that infection was carried in some article of food served at the dinner of July 28, since every nurse affected, as also the sweeper, partook of this meal. Other possible sources of infection were—

(*a*) The filtered water supply,

(*b*) The unfiltered water supply if used to adulterate the milk after purchase, or

(*c*) Bazar milk if used by the nurses.

The probabilities, however, do not point to the disease having been communicated by any of these means. There were no other cases among the numerous persons using the filtered supply come from the kitchen of the nurses' quarters. The unfiltered supply was found free from cholera organisms on the 31st July, and the state of the general public health is opposed to the theory of any general contamination. If milk is consumed by the nurses privately at all, it is stated that condensed milk is used.

7. The case of the 3 children patients is less clear, but it is obvious that they were infected by the same cause which infected the nurses, and that all the cases must be considered as part of the same outbreak. It appears that there is occasionally some interchange of food between the nurses' quarters and the wards. For example, the nurses occasionally bring some special article of food from their own table to tempt the feeble appetite of convalescents. It is possible that in this way some of the food provided on the 28th of July was given to some of the children in the Alexandra ward. It is known that some custard was actually brought to the nurses' room which opens out of the ward.

8. *The conclusion.*—Of the articles of food served at the dinner of the 28th instant, it appears most probable that the actual "virus" was conveyed in the custard sauce which was served with the fruit. No other article is likely to have carried the infection. In order to decide how the custard became contaminated, an elaborate bacteriological examination was undertaken by Mr. Haffkine. On the 31st July he took 127 samples in all of the food, water, etc. He also took specimens from the intestines and discharges of 8 patients. Five of these showed "comma bacilli" in pure culture, thus eliminating the possibility of ptomaine poisoning. Of the 127 samples collected, 113 showed no sign of infection, whilst 14 were found tainted with "comma bacilli." The infected articles were—

(*a*) In the kitchen or pantry: (1) Water in the ice chest of the nurses' dining hall. (2) Water in a large earthenware "chatti" in the cook room. In this "chatti" is stored the filtered water supply for the time when the town supply is cut off. (3) Water in a zinc bucket used to fill the "chatti." (4) Water in the "lota," containing peeled potatoes for the day's cooking.

(*b*) In the nurses' quarters: (5) Remnants of milk in a tumbler standing on a table. (6) Wash up water in a bucket close to that table. (7) In bedroom 8, an uncovered cup containing remnants of milk.

Seven samples were suspicious without yielding definite results.

9. *Uniformity of infection.*—The uniformity of the infection led Mr. Haffkine to suspect the kitchen servants as possible sources of infection, and he conducted a further series of tests. The articles most infected were those used or cleaned by particular servant or class of servants, the "masalchi," who, from the nature of their work, handled every food vessel and many articles of food. Mr. Haffkine accordingly washed with sterile water the hands of the "masalchis" and of 7 out of 8 servants working in the kitchen as cooks, "kitmatgars," etc., and of 1 of the sweepers. Of the 12 servants, 2 "masalchis" yielded positive results. It was noticed at the hand washing that K.—a "masalchi"—was abnormally

clean, and the reason of this disturbing factor was inquired into. It was found that on the day of examination, having peeled the potatoes and washed the vegetables, he visited the latrine and subsequently bathed in filtered water. Yet the dry hands of this man, who had endeavored to keep clean, and was apparently in the best of health, were contaminated with "comma bacilli," and these came off easily in the sterile water with which they were bathed by Mr. Haffkine.

10. These results are sufficient to explain the contamination of the ice water, tiffin curries, and the custard. Granted that the custard, inoculated in the morning with "comma bacilli," was allowed to stand for some hours at the temperature of a July day in Calcutta. It would soon become a teeming mass of virulent microbes. The two suspected "masalchis" were subsequently isolated and placed under observation in order to test whether they harbored "comma bacilli" in their bowels, and this was actually proved by the examination subsequently conducted by Mr. Haffkine. Unfortunately this portion of the inquiry was less complete than was desirable, since the men declined to remain under observation in spite of inducements offered to them.

11. *The medium of infection.*—As a result of the inquiry which has been held, the lieutenant-governor is of opinion that it has been clearly shown that the deaths which have resulted were caused by cholera, the infection having been introduced into the food (probably into the custard sauce) served at the nurses' dinner on the 28th July. The medium of infection in all probability was the "masalchis," who were serving in the kitchen. The circumstances under which the meal was served, and partaken of by all the nurses, and by the sweeper, who succumbed to the disease, all point to this conclusion. Owing to the death of the nurses concerned the theory as to the distribution of some of the food to the patients in the Alexandra ward can never be actually verified, but it is in all probability correct.

12. Sir Edward Baker has personally visited the nurses' quarters and has approved of the immediate provision of a water tank and of certain improvements in the kitchen and pantry. The two latter buildings, however, are quite suitable in design and are clean and well found. The nurses' quarters in the old block are overcrowded, and their ventilation might be improved, but there is no evidence that the recent outbreak had any connection with overcrowding.

13. Sir Edward Baker desires to place on record his high appreciation of the conduct of the hospital authorities and the nursing staff during this time of peculiar and distressing difficulty, as also to tender his acknowledgments to Mr. Haffkine for his able investigation.

Professor Haffkine's report.—On August 8, the professor dispatched to the Bengal government the appended report from the government of India laboratory:

The following is a summary of the facts disclosed by my study of the recent cholera occurrences in the Presidency General Hospital. The outbreak comprised 10 cases among nurses, 3 in-patients in the children's ward, and 1 of a sweeper, all occurring practically within twenty-four hours. The suddenness, and the abrupt termination of the occurrences suggested the possibility of ptomaine poisoning.

That it is cholera was proved by the demonstration of "comma bacilli" in 3 fatal cases in nurses and in a fatal case in a child. The other fatal cases did not come under examination. Of the 4 recovery cases, all in nurses, 1 only yielded "comma bacilli;" the others were examined and found free.

The infection seemed to have its center in the nurses' quarters, and consequently did not appear likely to be in the general water supply which is common to those quarters and to the rest of the hospital. I examined, however, the tap water both from the filtered and unfiltered supplies, the latter being still served to the hospital for certain specific purposes, but I failed to detect "comma bacilli" in either. To elucidate, if possible, the distribution and origin of the infection, everything pertaining to food and drink and to the preparation of these, as concerning the nurses, was examined. The 30th of July was the day when practically all the cases occurred. The samples were gathered on the 31st and the following facts have since been obtained. Of 127 sample materials collected, no indication of infection was met with in 113; 14 were found tainted with "comma bacilli."

14. *Tainted articles.*—The tainted articles were—

(1) Water in the ice chest belonging to the nurses' dining hall. The chest was standing at the time outside the hall, in the open, and had no ice in it. A small quantity of damp sawdust was lying close by, on the ground. No "comma bacilli" were found in the sawdust.

(2) Water in a large earthenware "chatti" in the cook room. In this "chatti" water is stored from the filtered water supply, for the time of the day and night when the supply is cut off. To get water out of the "chatti" a tin is dipped by hand into it. The "chatti" is filled from the tap not directly, but by means of a zinc bucket into which the tap water is received.

(3) Water in the latter bucket.

(4) Water in a large "lota" standing in the cook room and containing the supply of raw peeled potatoes prepared for the day's cooking. The peeling is done by hand; the potatoes had been put into water to be washed after the peeling.

Then, in the nurses' quarters, new building, the contaminated articles comprised the following:

(5) Remnants of milk in a tumbler, on a table at the foot of the staircase, on the ground floor.

(6) Washing-up water in a zinc bucket standing by the side of the above table.

In addition to the above articles the following appeared suspicious, without yielding clear results:

(7) In bedroom No. 8 an uncovered cup containing remnants of milk.

(8) Water in the earthenware "surahis" in the verandas of the ground and upper floors.

(9) Water in one of the two jugs on the washstand in Nurse S.'s room. (Nurse S. was one of the cholera patients.)

(10) Water from a toothbrush jug in room No. 8.

(11) Water from a flower vase in room No. 3, old nurses' quarters.

(12) Water in a "surahi" in the pantry, nurses' dining hall.

(13) The morning's milk supply, in a large basin kept in the milk cupboard in the pantry; and,

(14) Washing-up water in the cook room from the cleaned "muffineers" (tiffin carriers), in which food for the nurses' cook room to the dining rooms set apart for them and for the sisters in the wards.

At dinner time, drinking water, which is used by all nurses, is served in the dining hall, out of two or sometimes three jugs, one jug to a table of some 14 persons. The water is cooled by ice put into the jug. It appears on inquiry that the ice supply is in charge of one of the "masalchis" who receives it on arrival, puts it into the ice chest, and, I believe, deals it out when required.

The peeling of potatoes and other vegetables is done again by the "masalchis," who are 4 in number.

The washing up of the dishes and all other articles on which food is served in the dining hall, and of the "muffineers" used for sending food to the nurses on duty in the wards, is also the work of the "masalchis."

The hands of the "masalchis" and incidentally of 7 of the 8 other servants connected with the nurse messing (the "khanasamah," the "bawarchi", the "bawarchi's" mate, 3 dining hall "kitmatgurs," and the hospital dining room "kitmatgurs") and of one of the sweepers were consequently examined for "comma bacilli."

Of the 12 servants 2 yielded positive results. The first of these was the cleanest of all those who came up for examination, having just finished bathing. A remark was therefore made at the time by one of the bystanders as to this disturbing circumstance.

When on the day following it became apparent that the hands of this man had yielded "comma bacilli" and inquiry was made, the following written statement was received from the hospital authorities:

"K., 'masalchi,' yesterday morning, after peeling potatoes and cleaning vegetables, visited the latrine and subsequently bathed at the usual place set apart in front of the servants' quarters, which is a filtered water supply from the municipality. The servants invariably bathe there while the flow of water is on; and it is the place where this man always bathes.

"Thus the dry hands of the man, who had done his best to keep clean and was apparently in the best health, were contaminated with 'comma bacilli' and these came off easily when brought in contact with the fluid into which they were received by me.

"I have had no time to ascertain yet whether the two men in question actually harbored 'comma bacilli' in their bowels. But contamination conveyed from their hands to the ice and to the dishes, bottles, muffineers, etc., would be carried to every nurse who dined in the hospital at the time; it would be capable of being conveyed, not directly to a sick ward, but to the nurses' dining room in the ward, and could reach the ward's sweeper, who, it appears, usually gets whatever remains in the muffineers from the nurses' dinner."

CHOLERA MEASURES IN THE PHILIPPINES.

General information concerning the measures to be taken in combating Asiatic cholera has been published as a part of the Bureau of Health Manual and also separately for distribution among health officers and municipal officials, as Health Bulletin No. 7. With the hope that it may prove of service in other countries, should the disease manifest itself it is mailed upon application.

With the sanitary inspectors of this Bureau it has become a schedule of procedure and is followed without deviation, thus insuring system and uniformity.

CHOLERA IN MANILA.

A case of cholera occurred in Manila July 10, 1910, and another July 28. No more cases were reported until August 17 when two cases occurred in Bancusay.

The disease did not make great headway. All the towns near Manila were cleaned up and the health forces organized by men from the central office in advance of the appearance of cholera. Assistant sanitary inspectors from Manila were stationed in these towns to maintain the standard of cleanliness.

Manila in all probability became infected from Bulacan, the first cases occurring on Tondo Beach, where fish and sea food from Bulacan are bought and sold. The outbreak may be said to have commenced August 17, and has reached a total of 377 cases. Its appearance was anticipated and before the first cases occurred, with the aid of the Manila police force, a house-to-house inspection was in smooth operation.

The measures adopted and the examination of stools of sick children enabled the Bureau of Health to find and isolate many light and atypical cases which otherwise would have escaped observation.

So far as the city of Manila is concerned most important facts developed in connection with the diagnosis of this disease. For the first quarter of 1905, there were 80 cases of meningitis reported; 81 cases for 1906; 151 for 1907, and 129 for 1908. In view of the desirability of verifying the diagnosis in some of these cases a number of autopsies were made and these showed that the cause of death was not meningitis, but cholera.

In view of these findings, it was decided in September to hold autopsies on all cases that were reported as meningitis. This step had the immediate apparent effect of increasing the diagnostic acumen of those signing death certificates and only 34 cases of meningitis were reported; on 28 of these autopsies were held and only 2 proved to be meningitis; 17 were cholera; 4 were beriberi; 1 was empyema; and 4 were undetermined.

Erroneous diagnoses of this kind furnish additional proof of the manner in which it is possible for cholera to be tided over from one outbreak to another and also most strongly emphasizes the importance of continuing investigations with regard to cholera in the Philippine Islands.

CHOLERA IN THE PROVINCES.

The outbreak of July in Albay Province was controlled by the first week in August, but the coincident epidemic in Ambos Camarines was more difficult to handle and persisted until November.

The outbreak in Hagonoy, Bulacan, was suppressed in eighteen days with a total of 40 cases. Bulacan became reinfected from Pampanga in the second week of August. The difficulty in obtaining proper quarantine guards was responsible for its spread. In Malolos, Obando, and Bulacan, however, Constabulary soldiers were secured for quarantine guards on September 10, and the disease was brought under control by September 20.

A serious epidemic in Oriental Negros began in August and by September 1 12 towns had been infected. This infection was soon confined to 4 towns and completely eradicated before the end of the year.

Cholera was also present in epidemic form in Bataan, Bohol, Cagayan, Ilocos Norte, Isabela, and Rizal. Small outbreaks in Cavite, Leyte, Samar, Tarlac, and Tayabas Provinces were suppressed without much spread of the disease.

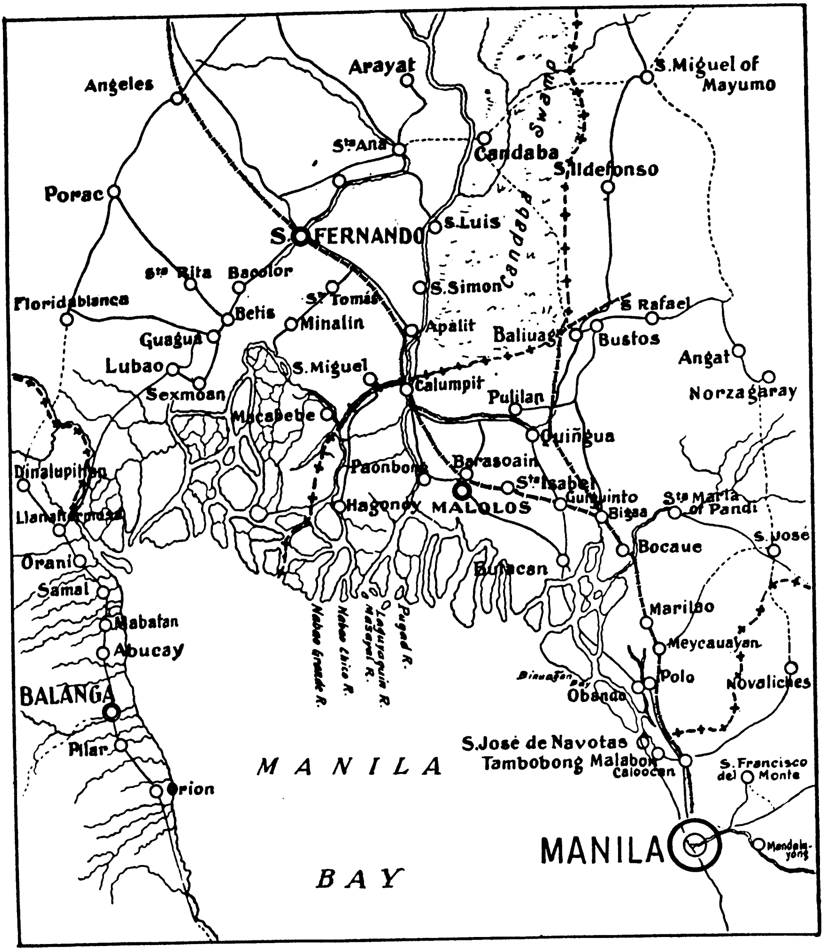
In the provinces, one serious outbreak of cholera occurred in the city of Cebu, the daily number of cases rising to 73. Owing to the decided energetic measures immediately taken by District Health Officer Pond the number of cases was brought down in a period of one week to 5 per day. Better results in a shorter time were probably obtained in combating this outbreak than in any with which the Bureau has had to deal since its organizations. If the disease had not been promptly controlled it would undoubtedly have spread throughout this thickly populated island, the danger of spread being much greater now than formerly because of the great improvement of transportation facilities brought about by the building of wagon roads and railroads. The success achieved in this outbreak is further due to the hearty coöperation which was met with from nearly everyone concerned; the municipal and provincial governments, the joint committee of the Legislature, the Insular Government, public-spirited private firms and individuals all uniting in the campaign which terminated so successfully. Cholera in the Province of Pampanga will be treated in connection with a notorious cholera area consisting of the territory bordering upon the north shore of Manila Bay.

A CHOLERA REGION.

If cholera has an endemic home in the Philippines it must be in the territory bordering upon Manila Bay between Orani, Bataan, and Malabon, Rizal. This territory is intersected by innumerable esteros, creeks, and channels and the lower fringe is a tidal swamp in which the nipa palm grows luxuriantly. The people live by the various industries connected with nipa and by fishing. They are nomadic, constantly traveling in their bancas, and usually carrying their poor provision of food and water with them. They are for this reason most excellent carriers of infection.

For the past two years, during the dry season, cholera has disappeared entirely from the Island of Luzon, with the exception of the district described above. In fact, this wet, swampy, tidal delta presents practically the same aspect in both the dry and wet seasons and for this reason the favorable influences of the dry season in checking cholera operate in this ditrict in a much lesser degree.

The influence of moisture upon the spread of cholera is not clearly understood. Certain it is that cholera spreads with great rapidity in the wet season and tends to diminish or disappear during the dry months. Possibly this is to be explained because of the greater efficiency of sun disinfection when ground surfaces are dry. These people defecate wherever they happen to be; in the dry season their stools upon a dry surface are quickly rendered harmless by the drying and disinfecting action of the sun, whereas in the rainy season the fecal material is frequently washed into the wells or water courses from which the drinking water is taken.



The Region of Epidemic Cholera.

The endemicity of cholera is not proved by the failure to eradicate it entirely from the delta for a period of two years. It may be accepted as proved, however, that the difficulties of its eradication under such circumstances are very great.

One significant fact against the theory of endemicity is frequently noted, namely, that even the towns with the worst records for cholera are clean for months at a time but become reinfected from other towns in the cycle.

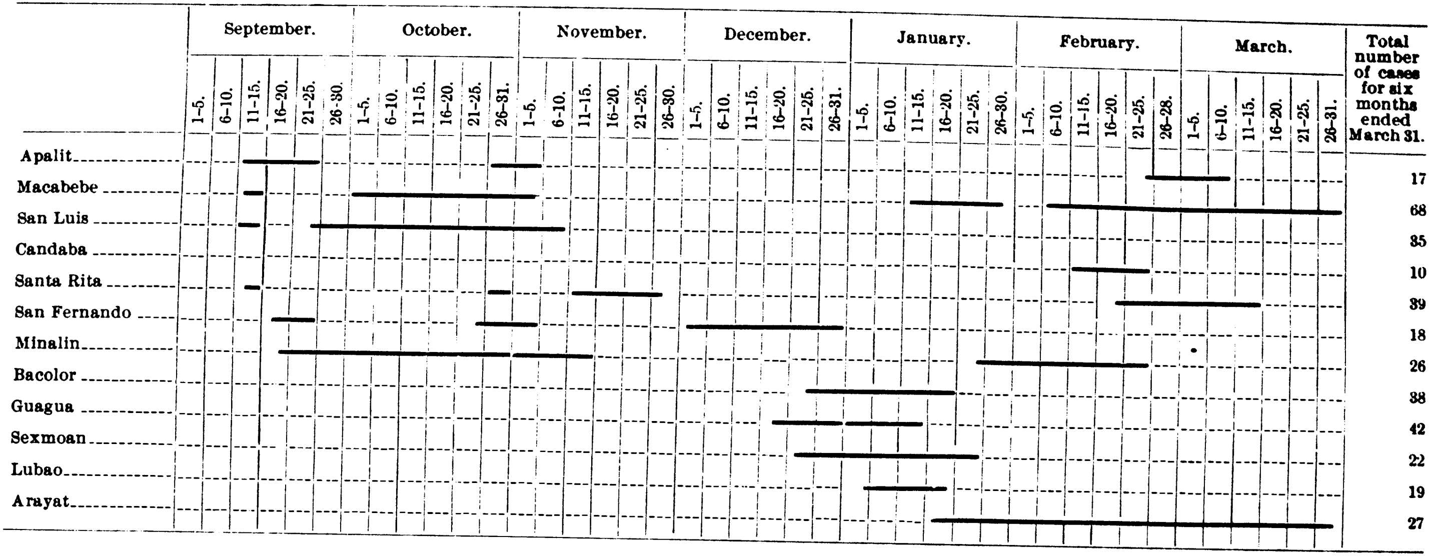
To explain further, in July an epidemic started in Hagonoy, one of the most notorious cholera towns. With a large force of Manila men and

Constabulary guards, the outbreak was suppressed in eighteen days, with a total of 40 cases. At the same time another large force of men from Manila was combating a much larger epidemic in Pampanga, prevailing in the towns of Sexmoan, Guagua, Lubao, Santa Rita, Bacolor, Porac, and San Fernando. This epidemic was also suppressed, although six weeks were necessary, and the province was declared clean in August. The Pampanga epidemic, however, lasted long enough to reinfect Hagonoy. Pampanga was now clean for one month or until about September 6, when the province was reinfected from Bulacan; so the endless chain went on. Often the cases were very few and scattered, sometimes more than five days between reported cases, but there were undoubtedly other cases unrecognized or unreported which supply the missing links in the chain.

The table shows how the infection jumped from place to place over this area. During the dry months of January, February, and March there were 180 cases of cholera in Pampanga, scattered over 12 towns, or an average of 5 cases a month for each town. There is great difficulty in combating an infection scattered over so many towns and yet so slight as to be scarcely noticeable and as elusive as the proverbial flea.

The table shows the results of work of the Bureau in combating cholera in this "cholera area" during the most favorable season of the year, October to March. The number of cases was reduced to a very low figure, but the cholera was not eradicated. In the table the months are divided into five-day periods. It will be noted that the cholera outbreak in Macabebe and San Luis, which began September 10 was stopped by November 3, and these towns remained clear for over two months. However, San Fernando picked up the infection October 24 and carried through the first week of November. Here Santa Rita became infected and this was the only town infected at that period. A strenuous effort to clear Santa Rita was successful and the town was clear of cholera in eighteen days. The infection lasted long enough, however, to reinfect San Fernando December 4. Our best efforts were concentrated upon San Fernando, but although this municipality was cleared by the 31st of December and remained clear for months, the experience of Santa Rita was repeated and Guagua, Sexmoan, and Bacolor became infected from San Fernando about the middle of December.

The infection in these three towns, Guagua, Sexmoan, and Bacolor was eradicated in less than five weeks and they have remained clean up to the present. The cycle began all over again when Macabebe, after having been clean for over two months, became infected, probably from Sexmoan. Arayat became infected from Macabebe and the infection lasted in these two towns from January to April. For these three months the total number of cases in Macabebe was 50 and in Arayat 27, which speaks eloquently for the work of the Bureau of Health men under Medical Inspectors D. M. Molloy and Vicente de Jesus,


September.
October.
November.
December.
January.
February.
March.
1-5.
6-10.
11-15.
16-20.
21-25.
26-30.
26-31.
26-28.
Total number of cases for six months ended March 31.
Apalit 17
Macabebe 68
San Luis 35
Candaba 10
Santa Rita 39
San Fernando 18
Minalin 26
Bacolor 38
Guagua 42
Sexmoan 22
Lubao 19
Arayat 27

but the infection again lasted until the beginning of the rains and the infection of new territory in the Province of Pangasinan.

The infection of the Province of Pangasinan probably took place at Bayambong from Macabebe. There are over 300 women, wives of the Scouts at Camp Gregg, living in Bayambong. A great many of these are from Macabebe, hence there is much travel between Macabebe and Bayambong.

On April 14 the president of the municipal board of health of Bayambong reported a suspicious case of cholera. The same day a telegram was sent to the district health officer at Lingayen informing him of the case. Without waiting for the report of the district health officer, orders were issued April 16 to Sanitary Inspector Allen and six assistant sanitary inspectors to proceed to Bayambong and Bautista, Pangasinan, for duty. On the same day (16th) Medical Inspector Snodgrass was ordered to inspect all towns on the west of the railroad line to Pangasinan and to take charge of operations against cholera. Doctor Snodgrass found that cholera had been present continually in Aguilar since the 12th, in Bayambong since the 9th, in Mangatarem since the 11th, in Salasa since the 10th, in San Carlos since the 14th and in Lingayen since the 17th of April. On the 19th Sanitary Inspectors Searcy and Covey with 15 additional assistant sanitary inspectors were sent to report to Medical Inspector Snodgrass. Doctor Villafranca was ordered to inspect and organize all towns east of the railroad.

With eight municipalities infected before the Insular inspectors arrived, the probability of a serious and widespread epidemic was evident.

The Province of Pangasinan was divided into six health districts, each district containing six to eight municipalities, and were placed in charge of District Health Officer Caballero, District Health Officer Villafranca, Sanitary Inspectors Hogle, Covey, Searcy, and Allen, respectively, and in each of 40 municipalities an Insular assistant sanitary inspector was placed to take charge of the local personnel.

There is a striking similarity between the Pangasinan epidemic of 1908 and that of 1910.

Both epidemics began in the same month, in general the same towns were infected, and the sequence of infection from town to town was similar. Both epidemics reached their maximum in June and declined toward the end of that month. However, a comparative study of the number of cases in the various municipalities shows that the splendid work of Medical Inspector Snodgrass and his assistants had the effect of greatly reducing the number of cases in the towns which were worst afflicted in 1908. The infection of 1910 was more widespread than in 1908 but the total number of cases was a little more than half. The following table shows the differences in the two epidemics:

Pangasinan Province.	Cases.		Pangasinan Province.	Cases.	
	1908	1910		1908	1910
Agno	29	------	Pozorrubio	88	3
Alaminos	1	8	Rosales	------	8
Asingan	33	23	Salasa	------	9
Alcalá	------	9	San Carlos	343	66
Balungao	65	14	San Fabian	4	2
Bani	------	6	San Isidro Labrador	------	27
Bautista	147	25	San Jacinto	133	3
Bayambang	90	60	San Manuel	25	5
Binalonan	189	------	San Nicolas	3	1
Binmaley	8	14	San Quintin	------	1
Bolinao	1	1	Santa Barbara	41	56
Calasiao	271	38	Santa Maria	32	------
Camp Gregg	------	2	Santo Tomas	1	2
Dagupan	410	87	Sual	3	34
Lingayen	22	123	Tayug	14	1
Malasiqui	79	108	Umingan	------	2
Manaoag	95	51	Urbiztondo	------	3
Mangaldan	576	65	Urdaneta	10	248
Mangatarem	1	235	Villasis	4	68
Mapandan	------	58			
Natividad	4	------	Total	2,722	1,515

CHOLERA IN CHILDREN.

The following conclusions were arrived at by Dr. Allan J. McLaughlin, Assistant Director of Health, in a paper published in the Philippine Journal of Science:

> There is no reason for believing children to be less susceptible to cholera than adults, especially in view of the fact that children are particularly prone to all other intestinal disorders.
>
> Cholera in children is often unrecognized and unreported as such, being reported as acute or chronic enteritis, gastro-enteritis, enterocolitis, dysentery, acute or simple meningitis, and probably also as "infantile" beriberi, convulsions of children, and other diseases.
>
> The occurrence of these errors in Manila makes it more than probable that the same confusion exists in a greater degree in the provinces, where skilled diagnosticians are more rarely found.
>
> The clinical picture of cholera in children is often atypical, and the diagnosis may be extremely difficult if not impossible without a bacteriological examination of the intestinal contents. Cerebral manifestations in children suffering from cholera are very common, and their severity is in inverse proportion to the age of the child. Acute meningitis is a very rare disease in Manila, in spite of the statistics to the contrary. The percentage of children attacked by cholera is higher than shown by the statistics of the Bureau of Health.
>
> Further investigation is necessary to demonstrate the relation between "infantile beriberi," "acute bronchitis," "convulsions of children," etc., and cholera in children.
>
> During cholera outbreaks and during June, July, and August and September, all acute diseases of children should be reported to the Bureau of Health. A bacteriological investigation of the intestinal contents should be made in every case.

DYSENTERY.

During the year, there were 213 deaths in Manila from dysentery, 47 of them being among adults. Both the bacillary and amœbic varieties have been present but not in epidemic form.

Dysentery is a disease that is to be particularly dreaded by the white race in the Tropics. The natives are not immune, but with them as with the Chinese, the disease tends toward recovery and abscess of the liver resulting from amœbic infection is not common. The perpetuation of the disease is due to the use of nonsterilized food and drink and to the personal insanitary habits of the people. With the servant class, those that have the best opportunity to disseminate the infection, there exists a dense ignorance with regard to the nature of bacteriological cleanliness. To them a germ is a bug, a something that can be seen and dealt with by means of a bolo. It will be a long time before those who ought to know first will learn the principles of hygienic cleanliness.

GANGOSA.

The experience of the year has further confirmed the belief that this disease as specific entity does not exist in the Philippine Islands. A diligent search has been made for cases but none have come under the observation of the Bureau.

INSANITY.

The Bureau of Health census of the insane shows that there are 2,178 males and 1,622 females or a total of 3,750 insane persons in the Philippine Islands. Of this number 172 are confined to the San Lazaro Hospital and 104 at Hospicio de San Jose. The great majority of the insane persons in the Philippine Islands are of a most harmless character and present no problem beyond that of simple maintenance. Persons who are violently insane and those of incendiary proclivities and others that are and should for obvious reasons be restrained are accommodated at the San Lazaro Hospital for the Insane.

Each province is entitled to have maintained at Insular expense a certain number of insane in proportion to its population, upon the condition that they will deliver them free of expense at the doors of the San Lazaro Hospital.

For the commitment of the provincial insane there is yet no adequate legal procedure but the course of procedure outlined in the circular of the Executive Secretary, to be found in another part of the report, is being used at the present time.

HYDROPHOBIA.

During the year, for the first time in the history of the Philippine Islands, the existence of hydrophobia in dogs was demonstrated by finding the Negri bodies. Dr. F. W. Dudley has been of the opinion for some years that hydrophobia existed in the Philippine Islands and in order to demonstrate this conclusively he associated himself with Dr. Eugene R. Whitmore, major, Medical Corps U. S. Army, who is on special detail with the Civil Government at the Bureau of Science. This Bureau gave the investigation aid, by sending a circular letter to all district health officers, medical inspectors, and physicians of the Bureau of Health and to all presidents of the municipal boards of health throughout the Philippine Islands asking them to furnish specimens in accordance with the instructions of Doctor Dudley. On April 16 two dogs were sent from Pampanga Province by Dr. Salvador Gomez, of Angeles. Doctor Whitmore and Doctor Dudley found the Negri bodies in these dogs and made inoculations into rabbits and again recovered the Negri bodies from the rabbits' brains.

This discovery is of great importance from the health standpoint, and if the disease is at all prevalent in the Philippine Islands the opening of a Pasteur Institute for the treatment of rabies will be necessary.

Doctor Whitmore visited Saigon for the purpose of securing the necessary strains so that the virus may be produced in the Philippine Islands. Investigation is now being made in order to ascertain the extent of the prevalence of the disease in the Philippines.

HOOKWORM.

Experience in the Philippine Islands furnishes a most excellent example of the necessity of a large number of independent scientific observations being made before steps are taken on a large scale to combat the hookworm. It will be remembered that several years ago after the inmates of Bilibid Prison had been freed of hookworm and other intestinal parasites the mortality and morbidity rate in the prison dropped at a remarkable rate and that the improvement among the prisoners occurred in regular sequence as the different brigades were examined and the intestinal parasites eliminated. It was held by many at that time that if so large a percentage of the prisoners at Bilibid were infected with intestinal parasites, the same condition of affairs also prevailed throughout the Philippine Islands and that if this condition could be relieved, a great reduction in the death rate would take place. A resolution was passed by the Philippine Islands Medical Association and also by the Manila Medical Society urging that steps be taken to combat this condition. Before inaugurating so large a public health measure and expending large sums of money, it was deemed advisable to have more data available. Accordingly a joint investigation by a commission under the auspices of the Philippine Medical School, the Bureau of Science, and the Bureau of Health was conducted at Taytay and they found that approximately only 10 per cent of the inhabitants were infected with hookworm, and that those infected were apparently in as good health as those who were not infected. A study of the mortality statistics of the year that followed the investigation shows that there has been no improvement in the death rate of Taytay in spite of the fact that not only were the inhabitants treated for intestinal parasites but also for many other diseases. Another commission was then put in the field by the Bureau of Health in the town of Las Piñas, a place with a sandy soil located on Manila Bay. Over 6,000 persons were examined there; 24.2 per cent of the males and 8.06 per cent of the females were found infected with hookworm, or an average of 16.13 per cent. It was then deemed advisable to transfer this commission to an inland town and accordingly it was sent to Tuguegarao, Cagayan Province. There 16.90 per cent of those examined were found to be infected. One of the large tobacco growers reported that they had an unusually large number of lazy laborers on one of their principal haciendas and requested that an investigation be made. Of the 802 who were examined, 10.71 per cent were found infected with hookworm.

From a study of the statistics of Bilibid, Taytay, Las Piñas and in the Cagayan Valley, it is apparent that conclusions drawn from such meager data would be misleading and that considerable additional work will be necessary before definitely determining what steps should be taken.

Statistical information with regard to the hookworm and other intestinal parasites may be found in the appendix.

PELLAGRA.

Since the widespread interest which has been awakened more particularly in recent years with regard to pellagra, and since its discovery in insane asylums and other places in the United States, diligent inquiry has been made in the Philippine Islands for the purpose of ascertaining whether any cases of this disease had been observed.

Dr. D. G. Willets, of the Philippine Medical School, has informed the Bureau that in his work in connection with the hookworm commission in the Cagayan Valley, one case came under his observation which he diagnosed as pellagra.

District Health Officer Pond is making a systematic search among the residents of the Island of Cebu. In that province much corn, which is generally associated with the etiology of pellagra is grown and constitutes one of the staple articles of diet of the masses.

LEPROSY AND ITS TREATMENT.

Most substantial progress has been made during the year with the leprosy problem. It may be safely said that it is nearer a successful solution than at any time since the introduction of the disease. If the Bureau had no other result to show for the appropriations which are made for its support, it is believed that this record more than justifies its existence. With the exception of the lepers in the Moro Province and a few isolated cases here and there, all the lepers in the Philippines are now segregated. To accomplish this was a task of large proportions, and required great courage and a resoluteness of purpose of the highest order. The employees of the Bureau and others who assisted in this work performed a great service for humanity.

Since the inception of the project to segregate all lepers in the Philippine Islands, the transfers to Culion have been as follows:

Second quarter, 1906	365
Third quarter, 1906	132
Fourth quarter, 1906	305
First quarter, 1907	1
Second quarter, 1907	310
Third quarter, 1907	221
Fourth quarter, 1907	158
First quarter, 1908	1,025
Second quarter, 1908	150
Third quarter, 1908	257
Fourth quarter, 1908	171
First quarter, 1909	396
Second quarter, 1909	499
Third quarter, 1909	198
Fourth quarter, 1909	285
First quarter, 1910	122
Second quarter, 1910	180
Total	4,775

From the foregoing it may be seen that 4,775 lepers were actually transferred and that this total corresponds closely with the estimates which were made before the actual segregation was begun, and conclusively refutes the statements of so many persons who estimated that there were from 10,000 to 50,000 lepers in the Philippines. Many of these erroneus statements were published in the United States and Europe and no doubt have done much harm.

Of the total number of lepers, over 1,700 came from the Province of Cebu. In other words, that island has approximately one-tenth of the population of the Philippines and had over one-third of the total number of lepers. This island constitutes one of the most thickly populated provinces of the Philippines and this large percentage of leper infection indicates that the disease is more easily contracted in communities which are densely populated.

Of the lepers segregated during the present year a great many were in the earliest stages of the disease and in many instances no outward manifestations were apparent, whereas in the collections made in former years, the cases were mostly advanced ones and were frequently loathsome and helpless, many of them being so feeble that they died before they reached their destination.

The leper collections also had the direct effect of restoring several hundred unfortunates to society, who for years were outcasts in the communities in which they lived. Upon proper medical examination they were found not to be lepers and in many instances it was possible to provide them with medical treatment that resulted in their complete recovery.

In the annual report of the first year, mention was made of the fact that Mr. Moses T. Clegg, of the Bureau of Science, had apparently been successful in cultivating the leper bacillus. He had still further success with this work during the past year, and Maj. Eugene R. Whitmore, Medical Corps, U. S. Army, is now engaged in making a vaccine which it is hoped will be of value in the treatment of leprosy.

Treatment.—As has been the case in former years, many remedies for the cure of leprosy have been advanced in all parts of the world. Each of these treatments has been tried just as quickly as it could be secured and lepers found who would volunteer to take it.

The Nastin treatment was given a thorough trial, with negative results. The decoction prepared from the mangrove, which received so much publicity through the press on account of some alleged cures in Cuba, proved a failure. A powder which was claimed to have given remarkable results in a case of leprosy in Camden, New Jersey, was tried here, but so far without any noticeable benefit. The results of a treatment with a vaccine prepared from leprosy bacilli which were cultivated after the method of Clegg have so far not been very encouraging. As, however, further research in this direction is very promising, it will be continued.

The two methods used in the Philippines that have given beneficial results in certain forms of leprosy are the X-ray and chaulmoogra oil. No positive cures have resulted during the year from the X-ray, but the disappearance of all outward manifestations of the disease occurred in a number of patients. The chaulmoogra-oil treatment has given most encouraging results. It has been used in a number of cases, both at Culion and at the San Lazaro Hospital in Manila.

At Culion, there are two cases of leprosy from whom all evidence of the disease has disappeared but the leper bacilli can still be demonstrated in carefully prepared scrapings from the septum of the nose.

At San Lazaro Hospital there are five cases that have shown decided improvement and one of them is apparently cured.

The history of this case is as follows:

Name, Basilio Dacanay; age, 31 years; sex, male; race, Filipino; married; former occupation, motorman; former residence, 48 Isla de Romero, Manila; date of admission to hospital, February 7, 1909.

Personal history.—Negative. In 1908 had tetanus. No history of venereal disease.

Clinical history.—Reddish spots, not painful or itchy, were noticed on temples

three years ago. Applied family remedies without effect. The disease progressed, the lobes of the ears becoming red, thickened, and swollen. Soon after noticed infiltrations and thickening of both arms and thighs; suffered no pain or discomfort therefrom.

***Condition on admission.*—Physical examination of the heart, lungs, abdominal organs, etc., proved negative; cheeks were reddish and shining; had no pain; lobes of ears were hypertrophied, reddish, and shining; arms had reddish, shining spots; some also present on the back of right hand; eyebrows normal; no areas of anæsthesia present; microscopic examination of a specimen taken from the ear showed leprosy bacilli.**

***Present condition.*—Cheeks are less red and shining; ears are but slightly enlarged, the redness has disappeared, and spots on arms and legs no longer present.**

***Treatment.*—In February, 1909, crude chaulmoogra oil was given internally, commencing with 15-drop doses, gradually increasing the dose up to 300 drops a day; 0.001 (one-sixtieth grain) strychnine sulphate was given three times daily; saline purge every eight days; hot sodium bicarbonate bath every two days. Beginning on March 10, intra-muscular injections with crude chaulmoogra oil combined with 3 per cent resorcin was given every eight days, the dose being gradually increased until 5 cubic centimeters was reached. The patient was frequently examined for leper bacilli which were found to be apparently decreasing rapidly. On examination made July 12 and July 14, 1910, no leprosy bacilli could be found.**

In brief it may be stated that the experience of the past two years with crude chaulmoogra oil shows that persons afflicted with leprosy, especially the hypertrophic form, whose stomachs will tolerate the oil given in ascending doses combined with 0.001 (one-sixtieth grain) doses of strychnine and who can stand the hot bicarbonate of sodium baths, soon show signs of improvement.

At the close of the fiscal year advices were received from a drug firm which claims to have extracted the essential substance from crude chaulmoogra oil and that this can be taken internally without nausea. Samples have been requested and they will be given a trial as soon as they arrive.

MALARIA.

Malaria while not so common or so dangerous in the Philippine Islands as in many other tropical countries is, nevertheless, present, and methods for combating it are constantly being devised.

In the city of Manila there were 110 deaths reported for the year, which is within one case of the number as reported for the previous fiscal year. In view of the fact that in a great majority of these cases there was no blood examination, and no autopsy was held, the diagnoses are open to considerable doubt.

In view of the fact that the malaria-bearing mosquitoes are rarely encountered in this city, if this number of deaths actually did occur of malaria, the disease must, in all likelihood, have been contracted outside of the city.

With the idea of combating malaria upon a large scale, particularly in provinces like Albay and Ambos Camarines, arrangements have been made for the purchase of 2,500,000 doses of quinine. These will be distributed gratuitously and the effect upon the incidence of malaria in the coming year will be of interest.

MOSQUITOES.

This Bureau believes that considerable can be done toward improving the conditions with regard to mosquitoes in Manila, particularly the annoying night mosquito, the *Culex fatigans,* and the day mosquito, the *Stegomya persistans,* by educating the individual householders to make the breeding of mosquitoes on their premises impossible, and then by an organized inspection service to enforce the sanitary regulations. In the meantime a definite engineering project should be adopted, and drainage and filling done in accordance with it as rapidly as the resources will permit.

It must always be remembered, however, that Manila is on low land, much of its area being below sea level in fact. To bring the city to a drainable level is a primary necessity and this is estimated to cost at least ₱4,000,000. When it is remembered that the annual income of the city is under ₱3,000,000 and that this must be devoted to current expense, it will be seen that a bond issue is the only hope of providing the funds to do the necessary filling.

MEASLES.

Measles are continually being introduced into the Philippine Islands by newcomers from the United States, frequently by new troops. The disease has been present during a portion of the year in mild epidemic form but no deaths have been caused by it.

The disease as it exists among the Filipinos is of a much milder type than that encountered in the United States. For that reason it is feared that if the strain as it exists in the United States or Europe should gain a hold here the consequences might be more severe.

PLAGUE.

No plague has been encountered in the Philippine Islands either in man or rat during the year covered by this report. The last known case of this disease occurred in the Philippine Islands April 20, 1906.

The ports located in the near-by foreign countries have again suffered from outbreaks of this disease, particularly Amoy. Practically the only measures taken in the Philippine Islands against its reintroduction are based upon the rat theory of transmission of the disease. All vessels that touch plague-infected ports, and more particularly those that come alongside of the wharves in the Philippine Islands are fumigated with sulphur at least twice annually in order to destroy any rats or vermin that may be aboard. In addition to this, every endeavor is made to keep the wharves rat-proof and to place barriers upon the wharves which will prevent rats gaining access to shore. The wharves themselves are protected from rats from the vessels by fending them off whenever possible at least 6 feet from shore and using special rat funnels with which rat traps are combined upon all lines that lead to shore. The gangways are lifted at night. Considerable difficulty, however is experienced in enforcing the wharf regulations and in order to have them rigidly carried out no doubt the stimulus produced by the presence of actual plague would be necessary. Fortunately the new wharves in Manila have so far apparently remained free from rats.

As a prophylactic measure to prevent the spread of plague in case it should gain admission to any of the ports of entry, all vessels, lighters, cascoes, launches, and other water craft engaged in the interisland trade have been fumigated under the supervision of the Public Health and Marine-Hospital Service. In order to carry this into effect the following circular letter was issued by the quarantine service:

[Circular letter.]

U. S. TREASURY DEPARTMENT,
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,
OFFICE OF CHIEF QUARANTINE OFFICER FOR PHILIPPINE ISLANDS,
Manila, P. I., February 21, 1910.

To the owners, agents, and masters of vessels, and others concerned.

SIRS: In order to minimize the danger from the spread of plague by vessels in the event that this disease should again make its appearance in the Philippine Islands, all vessels in the interisland service, and all local craft, including, cascoes, launches, lighters, etc., and vessels in the foreign trade which call at the ports of entry in the Philippines, must be fumigated at least twice annually in order to destroy the rats and vermin that may be aboard.

It is the intention to carry out this fumigation at such times as will cause the least inconvenience to the vessels; and, in view of the fact that rats and vermin are a source of considerable annoyance and expense to the owners of vessels, as well as being most undesirable, it is hoped that your full coöperation in carrying out this fumigation will be accorded. No charge will be made for the work. A certificate stating that the vessel has been fumigated will be issued to all masters of vessels who may desire it.

Masters of vessels would confer a great favor upon this Bureau if they would send to the quarantine office a brief statement, each time a vessel is fumigated, which would give the number of rats and mice that were killed by the fumigation.

All vessels should be empty when fumigated, and it is respectfully requested that, when unloading is completed and before new cargo is taken on board, the quarantine office be notified before noon on the day on which it is desired to have the fumigation done in order that the work may be carried out as expeditiously as possible.

Respectfully,

VICTOR G. HEISER,
Passed Assistant Surgeon,
Chief Quarantine Officer for the Philippine Islands.

SMALLPOX.

The effect of the systematic vaccination of the residents of the Philippine Islands is being felt more and more. In almost every instance the persons who contracted smallpox were those who had been either unsuccessfully vaccinated or else had escaped being vaccinated altogether. In all the cases treated at San Lazaro Hospital not a single death occurred.

Many requests were received from the provinces to have a thorough vaccination done, one of the first examples being that of Antique Province among the residents of which a severe outbreak of smallpox had occurred.

In the city of Manila 137 cases of varioloid were treated at the San Lazaro Hospital but not a single death took place and in most instances the disease was so mild and so unproductive of symptoms that the individuals strenuously objected to being taken from their daily vocations. All of these cases occurred in persons who had been previously vaccinated which accounted for the mildness of the symptoms.

VACCINATION.

During the year 260,957 persons were vaccinated by the regular vaccinating parties which were sent out by the Bureau of Health and 933,676 persons were vaccinated at the expense of the provinces and municipalities, making a total of 1,194,633 vaccinations. The plan of carrying out the systematic vaccination has been for the Insular Government to complete one systematic vaccination of the inhabitants of the Philippine Islands and thereafter it was made the duty of the municipalities to vaccinate during July and January of each year all the children who had been born since the last systematic vaccination who were still unvaccinated and also to vaccinate all unvaccinated persons who came into their municipalities. It was found in many instances that the municipal officials were lax or the vaccine was permitted to become so old before it was used that even if the vaccinations which were performed they were practically useless. In other instances it was found that the vaccinators had falsified the returns and failed to vaccinate persons whom they had reported as vaccinated. This was directly responsible for a number of smallpox outbreaks which occurred before the facts were known.

The Bureau of Health has had to send Insular vaccinators to combat outbreaks of smallpox in the Provinces of Capiz, Iloilo, Occidental Negros, and Zambales. It is probably needless to state that just as soon as the vaccinations were performed with potent virus properly applied the disease completely and promptly disappeared.

Formerly great opposition was encountered in Antique Province and the lives of the vaccinators were seriously threatened by persons who refused to be vaccinated. However, after much persuasion a considerable number of the inhabitants were vaccinated. Shortly afterwards smallpox was introduced and the death rate among the unvaccinated became alarming, the people themselves then noted that in spite of the fact that the vaccinated persons frequently came in constant contact with the disease they did not contract it, while the unvaccinated died in large numbers. This led to urgent requests being made for vaccination, and the vaccinators who previously found their lives in constant danger were welcomed in communities where before they had been looked upon as enemies.

In some portions of Iloilo Province great difficulty was encountered in vaccination work, due to the fact that a rumor was maliciously circulated stating that the vaccine had been purposely infected with leprosy and all those who were vaccinated would soon contract the disease. Much patient effort was required to overcome this misinformation and in the interim many persons lost their lives from smallpox.

SPRUE.

In the annual report for the fiscal year ending June 30, 1908, it was stated that sprue was a most uncommon disease in the Philippine Islands and that two cases only had come under observation. Since this was written, other cases have been reported, some of which have been under treatment by the Army Tropical Board. The disease has never shown a tendency toward epidemicity or communicability.

TUBERCULOSIS.

The appropriation bill for the fiscal year 1910 contained provisions for the establishment of an out-patient dispensary and night camp for tuberculosis, and funds for the construction of 5 small pavilions at Benguet for the treatment of incipient cases.

In view of the fact that the free dispensary conducted by the Philippine Medical School is supported by the Bureau of Health and since it already had a tuberculosis department, it was deemed advisable to aid in expanding the latter rather than to start a new one. The results of this joint work have been most satisfactory and an average of 1,500 cases per month are now being treated in the tuberculosis dispensary. The work at the dispensary in Manila is directly under the charge of Dr. W. E. Musgrave.

At Baguio 2 small pavilions or shacks were constructed; the patients who occupied these improved rapidly and the demands for additional accommodations became so great that 3 additional pavilions were erected. Two cures have resulted and others are improving rapidly.

Considerable difficulty was experienced in procuring a site for the location of a night camp near Manila, to be used for early cases of tuberculosis, on account of alleged apprehension of danger from infection and the fear of the people that their property would depreciate in value. An excellent site, however, was finally secured through the courtesy of the Municipal Board by the transfer of the old Deposito ground and buildings at San Juan del Monte to the Bureau of Health. This place is now being remodeled, and it is hoped that in a short while, through the means of an antituberculosis society or league, which a number of prominent citizens have signified their willingness to form, at least 30 incipient cases can be accommodated and in addition a hundred persons in the early stages of the disease can be induced to spend their nights at this camp. The intention is to instruct such persons in the methods of preventing the propagation of this disease and as to the proper steps to take in order to bring about a cure. It is proposed to select as patients those persons who work in offices and other places throughout the city of Manila during the day and to keep them there for a period of three months and then have them return to their homes to carry out the hygienic measures which they been taught at the camp. Several nurses will be detailed for the purpose of visiting these persons in their homes and aiding them in carrying out those things which they have been taught. It is hoped that before the close of the year some of those hopelessly sick with tuberculosis can be accommodated at San Lazaro Hospital in some buildings which are being prepared for this purpose. With the accomplishment of this latter project Manila will be in the front rank of the cities of the world with regard to tuberculosis measures by which fact it is hoped to inaugurate an educational campaign which will result in rapidly diminishing tuberculosis throughout the Philippine Islands.

TYPHOID FEVER.

Typhoid fever is keeping pace with the march of civilization in the Philippine Islands and is therefore gradually increasing. Still it can hardly be said to prevail to any great extent. Most of the outbreaks can be traced to troops which have been brought from the United States. To prevent its establishing itself, regulations have been prepared for the disinfection of excreta, for the protection of the water supply; for the inspection and sale of milk, and for the eradication of flies.

BOARD OF MEDICAL EXAMINERS FOR THE PHILIPPINE ISLANDS.

The Board of Medical Examiners is organized under the provisions of Act No. 310. The members are appointed by the Director of Health and hold office for three years, the term of one of the three members composing the Board expiring each year.

The members of the present Board are: Dr. Isidoro de Santos, president; Dr. Almon P. Goff, member; Dr. Eleanor J. Pond, secretary-treasurer.

THE BOARD OF PHARMACEUTICAL EXAMINERS.

For some years, there have been rumors concerning the irregularities of the Board of Pharmaceutical Examiners, but as the source of these rumors could not be definitely located, no radical action was taken.

During August, however, more tangible evidence became available, and upon the authority of the honorable the Secretary of the Interior a committee was formed consisting of Primo Hizon, Mariano Ocampo, and Manuel Zamora, pharmacists, and Dr. Almon P. Goff, of the Board of Medical Examiners, and Dr. A. P. Preston, of the Board of Dental Examiners.

The committee organized by electing Professor Hizon president and Doctor Goff secretary. A technical committee composed of the three pharmacists was appointed and made a most searching investigation into the methods of the Board, the result of which was the dishonorable dismissal of the president and the member and the exoneration of the secretary-treasurer who had stood out against the guilty ones.

The technical committee performed their duty in a most praiseworthy manner without any remuneration, giving freely of their time and services in the interest of the public welfare.

By direction of the honorable the Secretary of the Interior personal letters were sent to each member of the technical committee and also to Doctor Goff and Doctor Preston thanking them for the efficient manner in which they performed their duties.

The old Board held one examination only, on July 6, 1909, at which 23 applicants were present. Of this number only 1 obtained the required average.

There have been issued during the year 58 apprentice certificates and 1 temporary certificate without examination.

There have been collected from all sources the sum of ₱816. Of this amount ₱420 are examination fees for the examination to be held on July 5, 1910.

The new Board of Pharmaceutical Examiners is composed of: Sr. Hugo Salazar, president; Sr. Andres Garcia, member; and Sr. Rafael Lopez, secretary-treasurer.

BOARD OF DENTAL EXAMINERS.

The Board of Dental Examiners for the Philippine Islands operates under the provisions of Act No. 593 of the Philippine Commission, and consists at present of the following members: Dr. A. Vergel de Dios and Dr. L. C. O'Donnell, secretary-treasurer, the third membership being vacant, who are appointed by the Director of Health for the purpose of examining all applicants for the practice of dentistry in the Philippine Islands and also to advance the interests of the profession.

Dr. L. C. O'Donnell was appointed secretary-treasurer of the Board, December 1, 1909, to fill the vacancy created by the resignation of Dr. A. P. Preston on November 30, 1909.

Two *cirujanos ministrantes,* graduates from Santo Tomas University, were examined during July, 1909, but failed to make the necessary average required by the Board. At the semiannual examination held in January, 1910, there were five *cirujanos ministrantes* as applicants for examination, but due to certain transactions considered improper by the Board it was decided to postpone the examination until the following July hence the candidates were admonished that it would be well for them to use the intervening months for preparation. There are 13 *cirujanos ministrantes* as applicants for the examination to be held July 5, 1910.

There were several violations of the Dental Law during the year and as a result 1 man was arrested in Manila and fined ₱50, and 2 were fined ₱25 each in Pampanga Province.

The Board has been ably assisted in its work by the coöperation of the Philippine Dental Society, which reported the violations and also caused the arrests to be made and securred the necessary information to convict the violators.

The possibility of establishing free clinics throughout the city of Manila is being considered, as there seems to be a necessity for the same, judging by reports received from the various hospitals concerning the number of poor people applying for relief, and endeavors will be made by the Board during the coming year to meet this necessity in some manner.

The Board received during the year ₱150 as fees for the examination of 15 *cirujanos ministrantes.*

BAGUIO HOSPITAL DIVISION.[1]

The period embraced in this report, completes the second year of operation of the new Baguio Hospital, as distinguished from the old Benguet Sanitarium. All sanitarium features have been eliminated, and only patients immediately in need of medical or surgical treatment are admitted.

The total number of patients treated in the hospital during the fiscal year 1910, was 479, an increase of 29 per cent over the preceding year.

The total number of patients treated in the out-patient department during the same period, was 3,460, an increase of 49 per cent over the preceding year.

The total number of visits to the hospital clinic made by out-patients was 7,659, an increase of 46 per cent.

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[1] From the report of the chief of the division.

New buildings.—On the side of the hill west of the hospital building, the following cottages have been erected since March, 1910, for treatment of incipient pulmonary tuberculosis:

1. Two cottages, each 20 by 20 by 9 feet for the accommodation of from 2 to 4 patients each, 1 for Filipino men and the other for Filipino women.

2. Two cottages, each 10 by 10 by 9 feet to be used as individual cottages by Americans.

3. A toilet building, containing separate apartments for men and women, each fitted with a wash basin, flush closet, bath tub, and shower. This building contains 2 additional rooms, 1 fitted with a range, for heating bath water, and a slop sink for the cleaning and disinfection of sputum cups; the other to be used as sleeping quarters for the native employee in attendance on these cases. The drainage from this building is connected by tile soil pipes with the septic vault of the main hospital building.

These cottages all have several large wooden drop-windows and one 6-foot sliding glass window. With the floor and windows all open the occupants are practically in the open air day and night, while in case of storm, the windows may be dropped as needed on the sides facing the storm. The buildings all face Mount Santo Tomas, and overlook the valley of the Bued River. This outlook with its ever-changing cloud effects over mountain and valley gives a view of which patients never tire, although necessarily looking at the same scenery for many months.

Improvements.—These may be briefly enumerated as follows:

1. Installation of electric lights, minimizing the danger from fires, not to mention the many other advantages over oil lamps.

2. An increased capacity for hot-water production and storage assuring hot water for baths at any hour. Distilled water is for sale at Baguio and is available for all.

3. The additional small wards accommodating at least 10 native patients, made available by utilizing rooms formerly used for other purposes.

4. Copper screening of windows and doors of kitchen and dining room, and two private rooms, which may be used as a detention ward if necessary. From the large number of flies always present in the wards, it would be a great comfort to patients if the whole hospital building could be screened.

5. A fresh coat of paint of improved colors applied to the hospital and all outbuildings.

6. Additional flower beds, settees, and summer houses have added to the general appearance of the grounds. During the past few months 6 Bilibid prisoners have been assigned to the hospital for outdoor work.

7. On October 1, 1909, the pumping plant was transferred to the Bureau of Public Works, and later its capacity was increased so as to supply the buildings at Government Center as well as the hospital.

THE CLIMATE OF BAGUIO IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

Although an insufficient number of cases of tuberculosis have been treated at the Baguio Hospital to give any statistical data on this subject, nevertheless it may be well to make a preliminary report and record what evidence there is at hand.

Experience the world over has shown that if the hygienic and dietetic treatment of incipient tuberculosis can be carried out under suitable conditions a large percentage of cures will follow, irrespective of the climate in which the treatment is taken. Nevertheless most authorities agree that an equable climate free from sudden extreme changes of temperature, with a bracing stimulating air, moderate elevation, a large amount of sunshine, and minimum of rainfall—all conducive to life in the open air—are advantageous factors in the treatment of this disease.

With the exception of the rainfall, the climate of Baguio fulfills all these beneficial qualifications. During the rainy season in Baguio, the mornings as a rule are clear, bright and invigorating, while the rains occur in the afternoon. During the months of November, December, January, and February, there is seldom any rain, and a finer climate could not be desired. It is the opinion of the writer that the advantages of this climate will be found to far outweigh the disadvantage of humidity.

One food-test case, treated at the Baguio Hospital during the past year, supports this assertion. The case referred to is that of an American school-teacher, who entered the hospital in August, 1909, in the midst of the rainy season with cough and abundant expectoration, anemia, fever, night sweats, emaciation (her weight on admission being 93 pounds, normal weight 118 pounds), a lung involvement showing the second stage of the disease, and sputum loaded with tubercle bacilli. She left the hospital April, 1910, with a fine color, free from cough or expectoration, with very marked improvement in lung signs, with no tubercle bacilli found in sputum after repeated examinations; able to take long walks without fever, weighing 120 pounds. She has been living in a tent since leaving the hospital, and has gained 10 pounds more, making a total gain of 37 pounds. Considering the condition of this patient on admission, the result of treatment in spite of its being carried out during rains and typhoons has been most satisfactory.

During the past season a number of native Government employees afflicted with tuberculosis have attended the hospital clinic. They were examined and weighed when first seen, and at subsequent visits and almost without exception, these patients gained several pounds in weight, and otherwise improved during the three months that they were stationed in Baguio.

At present one American gentleman, and one Filipino boy are taking the treatment in the new cottages and both are showing steady improvement.

BILIBID PRISON SANITATION DIVISION.

The general sanitation of the prison under the direction of the chief of the division is maintained at a high standard, the system of inspection, hand disinfection, latrines and disposal of garbage having been found entirely satisfactory. During the year the native prisoners have been provided with spoons and are required to eat with them.

A cleaning brigade has been recently organized, the Director of Prisons having detailed 25 short-sentence prisoners for this purpose.

In addition to the ordinary daily routine care it is intended to clean and disinfect one building each day. With that plan each brigade will receive this special treatment every two weeks.

Covered cement cuspidors have been placed at convenient places throughout the prison grounds and their use by those who expectorate is compulsory.

All toilets in the prison grounds are being connected with the city sewer system as rapidly as possible.

The sleeping quarters of the prisoners are being improved, one stone building having been reconstructed with concrete floors and roof, one new concrete brigade-building completed and another is now under construction.

QUARANTINE, DISINFECTION, AND EXAMINATION OF STOOLS.

During the year the prison quarantine was removed from the building in the main prison, which was formerly used, to the small frame building within the hospital enclosure. All prisoners upon admission are still detained for five days as has been customary in the past.

While in quarantine, all prisoners undergo a medical examination which includes a microscopical examination for intestinal parasites.

BACILLI CARRIERS.

During the months, when cholera was prevalent in the provinces all stools were examined for cholera with the result that vibrios were frequently found but they proved not to be the vibrios of cholera.

Statistical information pertaining to this division will be found in another section of this report.

IWAHIG PENAL COLONY (BILIBID PRISON).

The site of this colony, on the Island of Palawan, was formerly considered one of the most unhealthful in the Philippines. An attempt at special colonization by the Spanish Government had to be abandoned on account of the ravages of malaria.

During the year there have been admitted to the hospital 1,314 members of the colony, 16 of whom died.

The daily average of sickness among the colonists was 2.88 per hundred. The average number of colonists was 831.

The yearly death rate was 19.25, to the thousand.

The daily average number of inhabitants at the colony including the colonists was 922. The death rate for the entire colony was 21.69 per thousand. It would have been about one-half of this if the many cases of tuberculosis had not been sent there with the hope that they would improve.

All colonists are examined systematically for evidences of intestinal parasites, and receive prophylactic doses of quinine.

INSPECTION DIVISION.

This division is under the control of the Assistant Director of Health and is charged with the sanitation of the city of Manila, and the suppression of cholera and other epidemic diseases in the provinces. The work of this division is constantly increasing due to the enforcement of the tenement-house regulations, the new cigar-factory regulations, and the building ordinances.

The work of sanitation in Manila is retarded by the necessity of using the Manila personnel for the suppression of cholera in the provinces. As the provincial health organization becomes more perfect, this necessity will disappear and the Manila force will be permitted to remain at home and concentrate its energy in Manila. During the months of May and June of the fiscal year by this report 48 out of 65 assistant sanitary inspectors of the city were engaged combating cholera in nearly all provinces.

Manila's 5 health districts are divided into 62 subdistricts and it should be possible under ordinary conditions to place one assistant sanitary inspector in each subdistrict, but when cholera gets beyond control of the local health officials in the provinces it is necessary to send the Manila men out of the city.

Pampanga is the first province to attempt a health organization upon the lines indicated by this office. It is hoped that other provinces will follow and that in the future it will not be necessary to send any considerable number of Manila men to the provinces.

The sanitary inspectors and assistant sanitary inspectors of Manila will always be available to train the raw material of any province which desires to follow the example of Pampanga and effect a permanent provincial health organization.

The following table indicates the disposition of the personnel of the inspection division at the end of this fiscal year. The cholera epidemic in Pangasinan is responsible for the large number of men on provincial duty.

Distribution of personnel of the office of the Assistant Director of Health, June 30, 1910.

	Medical inspectors.	Municipal physicians.	Sanitary inspectors.	Assistant sanitary inspectors.	Sanitary police.	Disinfectors.
Station A	1	3	2	5	6	5
Station C	1	2	1	5	4	0
Station I	1	1	1	3	3	0
Station J	1	1	1	3	3	4
Station L	0	1	1	1	3	0
Division of sanitary engineer			2	0	0	0
Provincial duty	6	0	6	48	0	0
San Lazaro Hospital	[a]1	0	0	0	0	0
Bilibid Prison	[b]1	0	0	0	0	0
Office, Assistant Director of Health	1					
On leave	2		1			
Total	15	8	15	65	20	[c]9

[a] Chief, San Lazaro Hospitals division.
[b] Chief prison sanitation division.
[c] Includes 1 chief disinfector and 2 assistant chief disinfectors.

A table to be found in the statistical section of this report shows the extent of the inspections, disinfections, and similar work performed by this division in the city of Manila during the fiscal year.

During the past year the incompetent have been weeded out and the deserving promoted. At present, 60 out of 65 have had the complete course of training including the taking charge of health measures in provincial towns for the suppression of cholera.

This force is not only available and valuable for the prompt suppression of cholera outbreaks but also for the training of provincial inspectors, when the provinces decide to form permanent provincial organizations.

The training of the assistant sanitary inspector corps has been carried on under the personal direction of the Assistant Director of Health. The efficiency of this body of Filipinos has been greatly increased and their discipline and *esprit de corps* exceed expectations. The high standard secured is due to two things—careful selection of applicants and protection against unjust treatment and accusation.

After careful selection the embryo assistant sanitary inspector is placed in Station A, Meisic, where he is taught disinfection in a practical manner, how to make inspection of premises, and how to perform vaccination.

He must acquaint himself thoroughly with the health ordinances, especially those relating to communicable diseases and building construction. As soon as possible he is sent to the provinces for practical training in the suppression of cholera. If, during his short probation, he shows himself unfit for the duties of assistant sanitary inspector, he is promptly discharged. He is enjoined to employ the maximum of courtesy, but to be firm in carrying out orders. From the beginning complaints have been numerous against these men. Complaints are always carefully investigated. In the majority of instances, the men have been guilty of nothing beyond carrying out instructions to treat all alike. When sanitary requirements are enforced upon certain persons of political or social influence, they consider that they should be exempt from sanitary orders and they vent their spleen upon the assistant sanitary inspector. If the assistant sanitary inspector has been courteous, and has done his duty, he is sustained and assured that so long as he follows his course, his position is secure regardless of the political or social influence of his accuser.

CLERICAL DIVISION.

The following extract from the report of the chief of the clerical division of the Bureau of Health is of general interest.

> The year has been marked by the first serious attempts to transfer the Government offices to Baguio. As is usual with first attempts, there were naturally some things that were not satisfactory, but on the whole it is believed that the movement is productive of good. The employees who spent the season in Baguio came back looking and feeling much refreshed and it is believed that the office work, since their return, has gone on in a manner that is unusual at the end of the hot season. One of the principal difficulties is the apparent necessity of maintaining a record division so far from the central office. It is believed that this will be remedied in time and barring delays no serious results will follow if both ends of the line fully understand the requirements. Another serious drawback is the difficulty encountered in separating the families of Filipinos. A Filipino on an average salary of from 50 to 100 pesos per month finds it practically impossible to take his family to Baguio. The cost of transportation is prohibitive in the first place, and should he succeed in overcoming this obstacle the scarcity of houses and cost of living in Baguio are further obstacles to be met. In view of the well-known attachment of the Filipino to his home life, this element becomes a serious one in administering a Government office. In one case in this office an employee drawing 50 pesos per month had a family of 6 girls. His panic at being told that he was obliged to go to Baguio for three months can well be imagined. He said with great sincerity that he desired to obey orders but he could not possibly take his family and he could not possibly leave them unprotected. About 50 per cent of the Filipino employees made the same objection. While it is believed that they will in time become reconciled, it is also believed that the matter of separating families of employees for three months of each year should be seriously considered in all its aspects.
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> The restlessness among American employees seems to diminish with the growing of settled conditions in the Islands. No considerable casualties are to be noted for this fiscal year and it is believed that the proportion of Americans who will have decided to remain is nearer fixed now than it has yet been and that the movement in personnel will be confined largely to newcomers.

The Filipino employee increases in efficiency and responsibility as time goes on. More original work, more suggestions, more action in emergencies have been noted this year than before. A tendency toward Bureau and Government *esprit de corps* is also noted and an element of coöperation among themselves with a disposition to frown down any undue departure from dignified rule and custom is very apparent. On the whole it may be said that office conditions are much more satisfactory than formerly.

CIVIL HOSPITAL DIVISION.[1]

The following report of the work accomplished by the Civil Hospital division, Bureau of Health, covers the period from July 1, 1909, to June 30, 1910, inclusive.

The total number of patients admitted to the hospital for treatment was 1,555 and they may be classified as follows: Americans and Europeans (Anglo-Saxons), 815, males 561 and females 254; Filipinos 700, males 578 and females 122; Japanese 25, males 8 and females 17; all others, including American Negroes, Chinese, East Indians, and Arabians, 15 (all males). By sexes, total number of hospital patients treated, male 1,162 and female 393. Of the total 1,555 patients, 1,181 were employees of the Philippine Civil Government, while the remaining 374 were employees of the Federal Government, employees of private concerns, people in private life or without occupation.

Of the total patients, 718 were employees of the Civil Government paying for accommodation and subsistence; 463 were Civil Government employees whose salaries do not exceed ₱80 per month and who are, thereby, entitled to free hospital accommodation and subsistence; 151 were private cases (non-Government employees) paying for accommodation and subsistence and the remaining 223 patients were admitted to the hospital as emergency cases and were given free accommodation, subsistence, and treatment.

The classification, in full detail, of the medical, surgical, obstetrical, and gynecological cases of the patients receiving treatment in the hospital during the year has been accomplished by the house surgeon, Dr. Ameen M. Saleeby.

Attention is invited to the fact that in many instances patients were treated for more than one disease and that some of the surgical cases were treated for ailments included in the classification of medical cases, therefore the number of diagnoses will be in excess of the total number of patients admitted to the hospital.

The total number of deaths for the year was 33, or a percentage death rate of 2.13 of the 1,555 patients admitted. Nine of the deaths which occurred were patients admitted to the hospital in a dying condition, making the low death percentage of 1.54 of the total number of patients actually receiving treatment from the hospital staff.

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[1] From the report of the superintendent.

Of the total deaths 7 were Americans and Europeans and the remaining 26 were Filipinos. Of the total deaths occurring 20 were persons in the employee of the Civil Government; 3 were persons who were members of the family of civil employees; 1 was a person in private life, and the remaining 9 were emergency cases without regular occupation.

The following is a summary of the work done during the year by the attending physician and surgeon, the attending physician, the visiting surgeon, and the house surgeon.

There were 17,851 patients reporting to the hospital during the year for consultation; 1,555 were examined and admitted to the hospital for treatment; 10,782 were examined and prescribed for and the remaining 5,514 were given advice and treatment in the office. All patients confined in the hospital were seen at least twice daily. There were 128 major operations performed, 219 minor operations, and 15,548 dressings. There were 62 babies delivered during the year.

The total number of prescriptions filled during the year at the hospital dispensary was 18,051.

A complete tabulated report of the medicines dispensed, giving in detail by months the number of prescriptions filled for the employees of each separate Bureau and Department of the Civil Government, has been accomplished by the pharmacist, Mr. Elijah M. Saleeby.

The following is a summary of the administrative work carried on during the year by the superintendent, with the assistance of the undersigned.

On account of the existing conditions at the Civil Hospital the work of administration has been a most difficult task. In spite of all, the administration of the hospital has been carried on in a most effective and practical manner. By careful supervision the extravagance and waste so prevalent during previous years has been reduced to a minimum. The institution has been run on a practical economical basis, but, however, not to such an extent that the hospital necessities needed have been cut down. The officers in charge of the administration of the hospital have worked faithfully and it has been their aim and desire to place the hospital on a businesslike basis.

During the year the subsistence department of the hospital has undergone a complete change. A scientific dietist arrived from the United States and reported for duty September 6, 1909. Since that time the food served, both to patients and employees, has been greatly improved in quality, quantity, and variety and at the same time the average cost per person per day has been reduced considerably.

The average number of persons subsisted per day during the year was 117.36 and the average cost per person per day was ₱0.743.

Much credit is due, in the improvement in the subsistence department, to the fact that supplies were carefully selected and, in buying, the firm that could give the lowest prices on standard goods received the order.

A decided improvement has been made, during the year, on the hospital grounds and without the necessity of the paying of extra labor. During the afternoons when the work in the hospital wards was slack, the muchachos were put to work on making improvements to the grounds and repairs on the building. Places that were formerly unsightly, filled with stagnant water, and the breeding place for mosquitoes are now lawns. The buildings have received repairs of various nature and are kept in as good condition as possible under the circumstances.

During the month of April Dr. H. Eugene Stafford, who has been the principal medical and surgical officer of the Civil Hospital since its foundation, resigned and his place filled temporarily by the detail of Dr. Donald Gregg, of the Philippine Medical School.

CULION LEPER COLONY DIVISION.

The population of the colony, after considerable fluctuation, due to deaths and new arrivals, was 60 less on June 30, 1910, than on the corresponding date of the previous year. At the beginning of the fiscal year, July 1, 1909, there were 1,741 colonists. Six expeditions arrived during the year: July 1, 1909, 185; September 11, 1909, 13; October 2, 1909, 94; December 12, 1909, 191; February 10, 1910, 122; June 18, 1910, 179; and 1 leper was forwarded from Iwahig penal colony, making a total of 785 received. Sixteen children were born during the year, of whom 12 were conceived at the colony. There were 838 deaths, which occurred by month as follows:

July, 1909	57	January, 1910	164
August, 1909	61	February, 1910	66
September, 1909	65	March, 1910	36
October, 1909	43	April, 1910	29
November, 1909	80	May, 1910	22
December, 1909	188	June, 1910	27

Twenty-two lepers escaped during the year, of whom the majority have been returned, and 1 was discharged, leaving the colony with a population of 1,681 on June 30, 1910. The total number of lepers received at the colony to this date is 4,757.

The present population of 1,681 is made up as follows:

	Male.	Female.
Europeans	3	--------
Chinese	1	--------
Filipinos	1,017	660
Single	463	301
Married	300	168
Widowed	60	84
Divorced	--------	--------
Children	198	107

It is still noticeable that the proportion of deaths is much larger among the new arrivals, and that the monthly death rate increases in proportion to the number of expeditions arriving.

PROPERTY DIVISION.[1]

There were received during the year 495 general requisitions which were filled as follows:

Provincial requisitions	217
Health stations	96
Central Free Dispensary	13
Central offices	33
San Lazaro Hospital	9
Civil Hospital	16
Prison sanitation division	17
St. Luke's Hospital	12
Mary J. Johnston Hospital	12
Philippine Medical School	4
Culion leper colony	20
Baguio Hospital division	16
Iwahig penal colony	10
Sanitary engineering division	17
Board of Pharmaceutical Examiners	2
Bureau of Quarantine Service	1
Total	495

To fill the above, the following requisitions were prepared and forwarded: On the Bureau of Supply, 37 for the Bureau of Health, Manila; 30 for the Culion leper colony division; 14 for Baguio Hospital division. On the Bureau of Printing, 177 for all divisions, stations, and offices. Total 258.

For vaccine virus, requisitions were filled to the number of 1,475. This is 95 more than were filled last year. The work of packing and mailing this virus, typewriting receipts, and keeping check on the issues required much careful attention and kept the laboring force busy a good part of their time, especially as the tubes had all to be closed before being sold to the Bureau of Science.

The following is a statement of the amount of vaccine virus accounted for during the year:

	Units.
Amount of virus on hand July 1, 1909	18,300
Received during the year	3,035,805
Total	3,054,105
Expended during the year	3,047,005
On hand July 1, 1910	7,100

From other Bureaus and individuals, there were received and filled 103 requisitions for supplies which were paid for by the requisitioners.

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[1] From the report of the chief of the division.

Inter-Bureau vouchers were received from the following sources: Bureau of Supply, 176; Bureau of Science, 1; Bureau of Prisons, 3; Bureau of Agriculture, 1; Bureau of Public Works, 1; total 182.

These were entered on the various cards according to the new system installed at the beginning of the year and receipts were obtained from the various divisions for whatever supplies were transferred to their equipment accounts. Thirty-four purchases in market were made (exclusive of subsistence supplies for hospitals).

There were made during the year, 362 bills of lading covering 225 sihpments by boat and 127 by rail. This is an increase of 25 shipments over last year. It has at times been difficult to attend to all these shipments, especially as the wagon has also been used for transporting labor to the new hospital, for carrying away lumber and for delivering supplies to the local stations and hospitals.

Packages of simple remedies were prepared by the division during the year and expended as follows:

	I.	II.	III.
On hand June 30, 1909	2	6	1
Manufactured during the year	75	138	34
Total	77	144	35
Expended during the year	71	144	35
Remaining on hand July 1, 1910	6	0	0

Total number expended during the year, 250. Boxes were made for these as well as for other shipments by the laborers.

This division is charged with the duty of purchasing subsistence supplies for the various institutions of the Bureau of Health. Every attempt is made to obtain the best value for the smallest outlay and to do so, bids are requested from the merchants who are best prepared to supply the particular goods required. These bids are always carefully considered and compared and when possible similar orders from the various hospitals are combined so as to make large orders to obtain better prices. At the same time every endeavor is made to give all rush requests prompt attention that the requisitioner might not be in convenienced. The shipment of all orders for Culion and Baguio are handled by this division, being first received and checked before being forwarded.

The removal of the Bureau of Health to Baguio during the hot season occasioned the property division considerable extra work in giving special attention to the boxing of typewriters and other breakable supplies. The result was satisfactory and no damage occurred.

During the year, several condemnation proceedings were held at the Civil Hospital, San Lazaro Hospitals, and central office. A complete and thorough check of all property at the Civil Hospital division was twice made during the year. The loading of 6 special boats for leper trips was also superintended.

The installing of the new card system and the work of receiving property at the new hospital have brought additional responsibilities on the property division and every employee has worked faithfully to do his share. Mr. Viana and Mr. Lazam have both had more than they could do, but with overtime and continual perseverance have accomplished most satisfactory results.

THE SANITARY ENGINEERING DIVISION.

The scope of work of this division is of great range, embracing in its advisory supervision and directing capacity, all sanitary engineering and structural work throughout the Philippine Islands.

The following extract is taken from the report of the chief of the division, Mr. George H. Guerdrum.

Statistical tables pertaining to the work of the division will be found in the appropriate place in this report.

CONNECTIONS WITH THE NEW SEWER SYSTEM.

With reference to the progress of the sewer work it may be added that the work is progressing as rapidly as the 20 registered master plumbers doing business in the city of Manila, with a shortage of material from time to time, can handle the same. At the present writing there are many orders with which owners are anxious to comply but which are held up or allowed to drag along for weeks and months, while some plumber is waiting for material from the States, finishing other jobs or breaking in new assistants.

Work has, to a slight extent, been hampered by a temporary injunction enjoining the Director of Health from enforcing a sewer connection order against the premises at 202 Solana, Intramuros. A number of cases against other premises had to be carried to court solely for the reason that house owners considered the injunction as applicable against all premises instead of only the particular premises at 202 Solana. All cases carried to court resulted in a conviction. The temporary injunction against 202 Solana is still pending, but it is confidently believed that it will be dissolved within a short period of time. For further information in this matter attention is invited to the records.

A tabulated account of sewer work accomplished is given at the end of this report.

SANITARY CONTROL OF BUILDING OPERATIONS.

By arrangements with the city engineer a stricter interpretation has been placed on building operations in the light-material sections of the city. The new interpretation will eliminate a tendency toward congestion in the larger barrios which are now about filled with houses. The letter, which is self-explanatory, follows:

CITY OF MANILA,
DEPARTMENT OF ENGINEERING AND PUBLIC WORKS,
OFFICE OF THE CITY ENGINEER,

January 26, 1910.

SIR: You will please hereafter interpret section 124 of the Revised Ordinances to mean that there must be a clear space of one meter and a half between buildings of light material which now exist and all other construction. This will operate to prevent the filling in of the meter and a half required between buildings of light material and the lot line with construction of strong material.

Very respectfully,

CLARENCE W. HUBBELL, *City Engineer.*

To the INSPECTOR OF BUILDINGS, *Manila, P. I.*

HOUSE SANITATION, MIDDEN SHEDS, ETC.

Public midden sheds for the poor of Manila have been increased during the year from 125 to 133 located according to the following health districts:

	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
Previously installed	10	26	15	55	19	125
Installed during the year	0	0	4	4	0	8
Total	10	26	19	59	19	133

CULION.

During the year plans were prepared and work commenced on the following buildings for the Culion leper colony:

1. Bath, closet, and laundry pavilions.
2. Administration building.
3. Post-office and store building.
4. Tenement house No. 2.
5. Barracks building.

At the request of the chief, Culion leper colony, and of the chaplain of the colony a sketch of the method of repairing and strengthening the gallery around the inside walls of the church at Culion, was submitted to the Director of Health on May 24, 1910.

BARRACKS BUILDING, MARIVELES.

Plans and bill of materials for a barracks buildings for quarantine station at Mariveles were prepared and completed by this office during February, 1910. The building is of reinforced concrete with tile roof. The cost was ₱6,260.54.

CAVITE.

Crematory.—Plans and bill of materials for a small crematory suitable for small cities such as larger provincial capitals of the Philippine Islands were submitted to the Director of Health on March, 1910. The plans were prepared in compliance with a verbal request from the district health officer of Cavite. The estimated cost was ₱2,718.60.

Matadero.—Plans and bill of materials were prepared by this office for a "matadero" for the Province of Cavite. These plans were prepared in compliance with the letter of the District Health Officer of Cavite addressed to the Director of Health, dated April 4, 1910. The cost was estimated at ₱7,491.30.

TUBERCULOSIS CAMP AT EL DEPOSITO, SAN JUAN DEL MONTE.

During the month of January drainage work was begun at El Depósito for the purpose of eliminating mosquitoes, breeding pools, etc.

Total number of men employed during month, at 75¢	430
Total number of native capatazes, at ₱1	21

Work accomplished.

Filling old quarries, 366 cubic meters, cost	₱121.52
Digging main canal through volcanic tuff, 115 by 1.2 by 3 meters wide	115.92
Cutting brush	111.61
Total	348.53

Services of inspector twenty days, at ₱150 a month.

Plans for sanitary sewage facilities for the reservation have been prepared, the estimated cost for the complete installation being ₱2,148.70.

During the last days of June work was begun on the above project.

SAN LAZARO HOSPITAL.

On March 18, 1910, this office forwarded an estimate of the material and cost of connecting San Lazaro Hospital to the new street sewer system on Calle Cervantes, and a separate estimate for the connection of the buildings of the Bureau of Agriculture on the other side of the hospital, to the same.

SANTA MESA NEW STREET SYSTEM.

The Consulting Architect was interviewed by the sanitary engineer in regard to this matter, and plans have been prepared for a new street approximately parallel to Santa Mesa, for the purpose of securing a right of way to carry the drainage which can not now be carried on Calle Santa Mesa proper on account of existing houses on proposed right of way.

LANDS OFFERED FOR SANITARY BARRIOS, ETC.

During the month of January two offers for the donation of land for municipal purposes and improvements were received and favorable action recommended by the sanitary engineer. One is an offer from Mr. H. M. Pitt, of Chandler & Pitt, real estate agents, to donate all land required for street purposes in Paco adjacent to the proposed extentions of Calle Canonigo. Another offer was from Don Tomas Cabangis, 209 Ilaya, Tondo, who offered half of a large tract of marsh land in the barrio de Vitas, provided that the municipality will fill the entire tract from proposed dredgings of the Vitas channel.

On May 26, 1910, the city engineer forwarded a communication stating that he was informed verbally by Attorney Joseph N. Wolfson, who represents the International Bank, that his clients were ready to consider a proposition to open up the property belonging to the bank, adjacent to the Santa Monica extension past the cotton mill, by ceding the necessary land for street purposes to the municipality. The communication was returned approved with a blueprint showing the proposed new street system, and expenditures from the sanitary barrio fund for this purpose were recommended.

The offer of Messrs. Chandle & Pitt to use as a sanitary barrio the property known as the Pasay race track, which is situated just outside of the city limits of Manila, on Calle Real, Pasay, was forwarded to the Municipal Board requesting information as to whether the Board were disposed to consider a plan to have this area included within the city limits.

On June 15, 1910, a communication was sent to Maj. Thomas L. Hartigan, counsel to the archdiocese of Manila, in which information was requested in regard to the opening of certain street on Singalong. Later, on June 30, 1910, an answer to the above-mentioned letter was received by this office stating that before making final transfer of the property referred to, the counsel should like to be informed as to the probable date of proposed improvement. This communication was thereupon forwarded to the Municipal Board for further information.

NEW GOVERNMENT COMMERCIAL PIERS.

In accordance with instructions, the sanitary engineer made a detailed report on the sanitary conditions of the new Government commercial piers at the end of Calle Beaterio extension, and stated that the only permanent solution of the problem is the prolongation of the sewer system from the Walled City to serve this locality, as any other system is merely a temporary expedient which will sooner or later have to be changed; and that if a sewer can not be at once constructed, the septic-tank system approved by the Bureau of Health, or the pail-conservancy system could be tolerated; provided that it should be understood that whatever system is installed (other than permanent sewer) is merely provisional and liable to removal at any time by order of the Director of Health.

The pail-conservancy system, in lieu of the old insanitary camp latrine with water-carriage system, abandoned by the military encampment, is now being used by the employees at the wharf.

The office of the sanitary engineer remains as previously, largely of a consulting nature. Larger projects initiated by this office are of course reported, but before actual construction is commenced or actual results obtained, the matter is generally passed on to the Municipal Board or the city engineer and there blocked out anew. Building matters pertaining to light, ventilation, and drainage continue to be handled by the sanitary engineer; all building, plumbing, and plans and certificates being sent by the municipality to this office for countersignature. Every effort is made to keep on hand and to give out information of a sanitary or health nature usually handled in a sanitary engineering office.

PLUMBING.

Another important branch of work which now confronts this division is the enforcement of Ordinance No. 125 of the city of Manila which provides for the compulsory remodeling of existing house plumbing and its connection with the new sanitary sewer system. The first difficulty encountered by the sanitary engineer in this regard was the apparent uncertainty of the registered plumbers of the city with regard to the number and class of fixtures to be connected when undertaking a job of plumbing. Together with this uncertainty there appeared to be a certain amount of concerted effort to connect only major portions of a plumbing system such as flush closets, with the new sewer, leaving the smaller but not less important fixtures, such as floor drains of bathrooms, stables, etc., to take care of themselves.

These efforts were immediately stopped by the drafting and forwarding of a letter covering these points to all registered plumbers. The aim of the same being to clearly instruct the master plumbers that all water entering a house or premises through the service pipes and the water meter must, when released after use, find its way, by means of approved plumbing, into the sanitary sewer system and at the same time prevent all storm water from entering.

As a large part of the plumbing of the city is done in compliance with sanitary orders emanating from the sanitary engineering division, it is advisable that the persons conducting this work be acquainted with the laws and regulations governing such work. For this purpose examination of the theory and practice of plumbing are and have been held from time to time, as a result of which all persons now holding a license as master plumber have been duly certified by the Municipal Board as qualified to intelligently carry on their trade in compliance with the regulations governing such work.

Any master plumber, showing himself ignorant of the fundamental laws of modern sanitation, or willfully evading or apparently seeking to evade, the plumbing regulations of the city is endangering his license to practice.

By far the most important sanitary plumbing now being carried on by the various branches of the municipality is the connection of all house sewage and drainage with the new sanitary (separate) sewer system recently installed by the municipality at an expense of several millions of pesos.

Unless specifically stated otherwise, all orders for the connection of premises with this system of sewer imply the following conditions:

> All water carried into a house or premises, through the service pipes and the water meter should, upon being released after use, find its way into the sanitary sewer system. This must also include liquid stable wastes, contents of flush closets, liquid wastes from factories, etc.
>
> All storm or rain water must be carefully excluded from the system, and carried by means of open or closed drains, gutters, etc., to the street gutters or in case of doubt disposed of in other ways satisfactory to this Bureau.

Plumbers will therefore, in the prosecution of their work, see that all bathrooms, sinks, the immediate vicinity of water hydrants, flush closets, stable drainage, etc., is properly connected with the sewer system. An important feature of this work will be to see that all floor drains connected with the sanitary sewer system are at such elevation that in time they will not become flooded with storm water.

All registered master plumbers are directed to see that sanitary fixtures which they may install are placed only in such rooms or compartments as comply approximately with existing building regulations.

No fixtures will be permitted in low-roofed temporary structures, nor in buildings which bear evidence of having been surreptitiously or illegally constructed.

No new construction, such as roofing over *patios*, etc., for the purpose of separating storm water from service water will be permitted unless the yard areas are sufficiently large to permit this under section 227, Revised Ordinances, and any such construction shall be done under special building permit in addition to the plumbing permit.

By ordinance regulations plumbers are required, after having accepted a contract for work, to see that a deposit, covering the estimated cost of street connection, be made to the department of sewers and waterworks construction of the city of Manila before the expiration of thirty days from the date of receipt of the order by the owner. By complying promptly with this part of the ordinance the owner fulfills the preliminary part of his order and is allowed the very liberal period of an additional two months for completion of the work, during which time the plumber may order his material, if short, and in other ways arrange for compliance within the time prescribed.

The sanitary engineer has issued circular letters to the master plumbers of Manila advising them as to the sanitary requirements that are demanded and giving instructions in most of the questions that will likely arise in the course of their relations with the Bureau of Health.

Statistical tables pertaining to the sanitary engineering division will be found in the statistical section of this report.

SAN LAZARO HOSPITALS DIVISION.

The number of patients treated in hospital during the year, as reported by the chief of the division, was 1,250, classified as follows: Insane, 223; lepers, 502; cholera, 277; smallpox (varioloid), 197; other diseases, 51.

Insanity.—Among the insane there have been 19 deaths, all due to natural causes, with one exception; there have been no epidemic diseases of importance, and no beriberi among them. These patients have worked as usual in the gardens and around the grounds, besides furnishing assistance in getting the new General Hospital into shape for occupancy. The women have sewed, and have made a great many bandages for use in the Bureau.

There have been 32 discharged cured or improved.

The causes for admission to this department are for the most part simple mania, acute and chronic, simple melancholia, paranoia (monomania), stuporous insanity, imbecility, the deteriorations, some paresis, syphilitic and alcoholic insanity, epileptics, and terminal dementias.

Six insane Scouts are being cared for at present.

Leprosy.—Three hundred and forty-six lepers have entered the leper department of this division during the year; and 219 have been sent to Culion. All cases have of course been examined microscopically at this hospital and found positive. There have been in the neighborhood of a thousand microscopical examinations made. The treatments by X-ray, chaulmoogra oil, mangle rojas, vaccine, and nastin have been carried on during the year.

The X-ray cases have been, as a rule, stationary or somewhat improved, and of all the treatments that by chaulmoogra oil seems to be having the most effect.

The vaccine and nastin have failed to produce much if any results.

The chaulmoogra oil has been used in as large doses as can be conveniently taken, given in conjunction with strychnine and soda bicarbonate baths. This is, of course, a treatment to be continued for a long time—for years in many cases—before coming to definite conclusions. One case which has taken the oil for a year and a half is apparently negative microscopically.

Cholera.—Two hundred and seventy-six cases have been received in the cholera department.

The regular treatment has been by stimulation, heat, intravenous injection of normal salt solution when in collapse, and the use of morphine as needed. At times the salt solution may be given subcutaneously, depending on the condition of the patient. The hypertonic solution has been used quite extensively, but apparently does not bring the patient out of collapse any quicker, or have any greater tendency to prevent nephritis and pulmonary troubles than the normal solution.

For the prevention and treatment of nephritis there has been used a solution of soda bicarbonate of 1 or 1½ per cent, with what appears to be good results, but it must be tried further before any definite statement can be made. It does no harm, certainly, and frequently relieves the comatose condition due to uræmia, or hyperacidity.

There have been a number of cases of cholera among children, and the main fact noticed has been that this disease does not always present in children the symptoms commonly considered to be typical in adults. There is a lack of the purging and vomiting at times, and typical stools are frequently not present.

Smallpox.—In the smallpox department 196 cases have been received, of which 137 were varioloid and 5 smallpox. There have been no deaths. This is in most striking contrast with the condition as regards smallpox of two years ago, in the spring of 1908, when there were many deaths in this hospital, including several Americans, all unvaccinated. The improvement is, of course, entirely due to the widespread and thorough system of vaccination in vogue in these Islands.

Diphtheria.—Twenty-seven cases of diphtheria and suspected diphtheria have been admitted. The principal thing to be noted in this connection is that large doses of antitoxin must be given, and that children, as a rule, should get practically the same amount as adults.

Tetanus.—Six cases of tetanus were treated.

The Italian method, an injection of a watery solution of phenol along the spinal column, was tried with apparently good results in one case, but in others it did not work so well.

Glanders.—Two cases of glanders were admitted, both of which died. These were the only cases of this disease ever admitted to this institution. Both patients had been around horses almost continually. Apparently the two cases had no connection with each other.

Morgue.—In the morgue 668 bodies were handled, and 464 autopsies performed. Twenty-three bodies were cremated.

Administration.—The subsistence for the year has averaged ₱0.305 per day, for each person subsisted, which it will be observed, is a reduction of ₱0.036 from last year. This is largely due to the use which it has been possible to make of garden products. The gardens here are undoubtedly a success.

The space in front of the hospital has been set out with coconut and acacia trees, which seem to be doing well. These grounds are at present being leveled and will be put in good condition as rapidly as possible. The usual amount of repairing and work around the grounds has been done.

The new laundry is well under way and the new ward is started. Work on the sewer system has not been commenced.

Native nurses have been used extensively and successfully during the year. An intern from the Government Medical School recently reported for duty at this institution, and is proving useful.

RECOMMENDATIONS.

For the improvement of the health service of the Philippine Islands, the following recommendations are made:

1. That the next Legislature enact a law for direct Insular control of the municipal health service. The reasons for this recommendation are discussed under the subject, "Municipal health service in the provinces."

2. That a law for the commitment of the insane be passed in order to secure uniformity and promptness in the manner of securing hospitalization for this class of patients.

3. That the Manila Charter be so amended that in cases where it becomes necessary for the city to abate nuisances existing on the property of private individuals, companies, or corporations, the cost of the

same may be assessed against such property and become a prior lien on the same until paid.

4. That an extensive laboratory and research study of cholera be made especially with reference to the influence of bacilli carriers on the propagation of the disease, and also as to other means by which its perpetuation might be secured.

This investigation if it is to be authoritative and of permanent benefit will involve time, money, and men, all of which it is hoped the Legislature will provide.

Respectfully,
VICTOR G. HEISER,
Passed Assistant Surgeon,
U. S. Public Health and Marine-Hospital Service,
Director of Health.

The honorable
the SECRETARY OF THE INTERIOR,
Manila, P. I.

APPENDIX.

STATISTICAL TABLES, BUREAU OF HEALTH, JULY 1, 1909, TO JUNE 30, 1910.

GENERAL STATISTICS.

[Unless otherwise stated these statistics are for the fiscal year ended June 30, 1910.]

Population of the city of Manila.

[Health census of 1910.]

Nationality.	Population.	Nationality.	Population.
Americans	4,174	Chinese	14,093
Filipinos	211,859	All others	1,275
Spaniards	2,364		
Other Europeans	644	Total	234,409

Births reported.[1]

Nationality.	Male.	Female.	Total.	Annual average per 1,000.
Americans	59	37	96	22.99
Filipinos	5,022	4,697	9,719	45.87
Spaniards	19	21	40	16.92
Other Europeans	10	9	19	29.50
Chinese	22	18	40	2.83
All others	----------	----------	----------	----------
Total and average	5,132	4,782	9,914	42.29

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[1] Registration incomplete.

Births, by districts.

Health districts.	Number of legitimates.			Number of illegitimates.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
No. 1, Intramuros	562	558	1,120	39	26	65	1,185
No. 2, Meisic	1,078	1,044	2,122	100	96	196	2,318
No. 4, Sampaloc	915	895	1,810	87	80	167	1,977
No. 5, Tondo	1,540	1,371	2,911	118	128	241	3,152
No. 6, Paco	688	573	1,261	10	11	21	1,282
Total	4,783	4,441	9,224	349	341	690	9,914

Births, by districts, and annual birth rate per 1,000.

Health districts.	Population.	Births.	Annual rate per 1,000.
No. 1, Intramuros	29,744	1,185	39.83
No. 2, Meisic	82,771	2,318	28.00
No. 4, Sampaloc	37,697	1,977	52.44
No. 5, Tondo	62,354	3,152	50.55
No. 6, Paco	21,843	1,282	58.69
Total and average	234,409	9,914	42.29

Births, by districts, according to number of children borne by mother.

Number of births, in the order in which the child was borne, whether first child, second child, etc.	Health districts.										Total.	
	No. 1.		No. 2.		No. 4.		No. 5.		No. 6.			
	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.	Living.	Stillborn.
First	282	20	578	20	366	16	673	31	280	7	2,174	94
Second	232	6	502	16	441	8	567	23	264	2	2,006	55
Third	184	3	366	19	339	13	557	13	238	6	1,684	54
Fourth	139	8	267	8	272	7	413	16	170	2	1,261	41
Fifth	115	8	173	3	176	6	305	8	109	------	878	25
Sixth	78	2	156	4	146	3	218	5	66	1	659	15
Seventh	48	1	76	5	85	4	135	8	43	2	387	20
Eighth	87	2	72	2	47	8	85	8	26	2	267	17
Ninth	28	3	34	4	38	3	67	7	22	1	184	18
Tenth	25	1	37	4	30	3	58	------	24	1	174	9
Eleventh	10	1	19	------	19	------	28	2	12	1	88	4
Twelfth	8	1	20	1	7	------	23	2	10	------	68	4
Thirteenth	4	1	14	1	7	2	11	1	8	------	44	5
Fourteenth	2	------	4	------	3	------	4	------	5	------	18	------
Fifteenth	3	------	3	------	1	------	4	------	2	------	13	------
Sixteenth	------	------	------	------	------	1	2	1	2	------	4	2
Seventeenth	------	------	1	------	------	------	1	------	------	------	2	------
Nineteenth	------	------	------	------	------	------	------	1	1	------	1	1
Twenty-first	------	------	1	------	------	------	1	------	------	------	2	------
Total	1,185	57	2,318	87	1,977	69	3,152	126	1,282	25	9,914	364

Number of deaths and death rate per 1,000 among residents, by nationalities.

Nationality.	Number of deaths.	Annual average per 1,000.	Nationality.	Number of deaths.	Annual average per 1,000.
Americans	54	12.93	Chinese	257	18.23
Filipinos	7,815	36.88	All others	12	9.41
Spaniards	37	15.65			
Other Europeans	14	21.73	Total and average	8,189	34.93

A classified report of all deaths occurring in Manila, including transients.

Males.	Number.	Females.	Number.
Married	963	Married	633
Divorced	0	Divorced	1
Widowers	307	Widows	484
Single	637	Single	182
Boys	2,957	Girls	2,495
Condition not stated	50	Condition not stated	18
Total	4,914	Total	3,813
Grand total			8,727

Stillbirths, 363.

Number of deaths with medical attendance	4,835
Number of deaths without medical attendance	3,892

Deaths, by age, including transients.

Age.	Residents.	Transients.	Total.
Under 30 days	1,021	9	1,030
30 days to 1 year	2,981	79	3,060
1 year to 2 years	622	25	647
2 years to 5 years	528	19	547
5 years to 10 years	141	7	148
10 years to 15 years	65	5	70
15 years to 20 years	213	37	250
20 years to 25 years	271	59	330
25 years to 30 years	338	52	390
30 years to 40 years	587	108	695
40 years to 50 years	429	59	488
50 years to 60 years	366	39	405
60 years to 70 years	254	26	280
70 years to 80 years	180	7	187
80 years to 90 years	103	5	108
90 years to 100 years	59	1	60
Over 100 years	16		16
Unknown	15	1	16
Total	8,189	538	8,727

Deaths, by districts, including transients.

Health districts.	Population.	Deaths.	Annual rate per 1,000.
No. 1, Intramuros	29,744	1,125	37.82
No. 2, Meisic	82,771	2,051	24.77
No. 4, Sampaloc	37,697	1,457	38.65
No. 5, Tondo	62,354	3,263	52.33
No. 6, Paco	21,843	831	38.04
Total and average	234,409	8,727	37.22

Comparative mortality from January 1, 1901, to June 30, 1910.

Month.	1901		1902		1903	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	753	[a]36.25	760	[a]36.58	602	[a]28.98
February	689	[a]36.72	706	[a]37.63	511	[a]27.23
March	885	[a]42.66	770	[a]37.06	539	[a]25.94
April	886	[a]44.07	1,327	[a]66.01	549	[a]27.31
May	903	[a]43.47	1,688	[a]81.26	770	[a]37.06
June	621	[a]30.89	1,418	[a]70.54	592	[a]29.45
July	608	[a]29.27	2,223	[a]107.02	620	[b]33.21
August	702	[a]33.79	1,712	[a]82.42	862	[b]46.17
September	767	[a]38.15	1,132	[a]56.31	1,228	[b]67.97
October	855	[a]41.16	927	[a]44.62	1,217	[b]65.19
November	848	[a]42.18	1,035	[a]51.48	974	[b]53.91
December	858	[a]41.30	753	[a]36.25	894	[b]47.89
Total	9,375	38.30	14,451	59.04	9,358	40.27

[a] Death rate computed on population of 244,732 (Health Department's Census).
[b] Death rate computed on population of 219,941 (Official census, 1903).

Comparative mortality from January 1, 1901, to June 30, 1910—Continued.

Month.	1904		1905		1906	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	796	[a]42.64	685	[a]36.69	737	[a]39.47
February	709	[a]40.59	608	[a]36.05	595	[a]35.28
March	751	[a]40.28	563	[a]30.15	600	[a]32.18
April	748	[a]41.40	530	[a]29.32	555	[a]30.27
May	766	[a]41.03	526	[a]28.16	600	[a]32.13
June	800	[a]44.28	593	[a]32.81	693	[a]36.72
July	866	[a]46.39	747	[a]40.00	1,451	[a]77.72
August	1,032	[a]55.28	841	[a]45.03	1,182	[a]63.31
September	1,064	[a]58.89	1,013	[a]56.06	835	[a]46.22
October	1,018	[a]54.53	850	[a]45.51	684	[a]36.64
November	957	[a]52.97	944	[a]52.24	653	[a]36.14
December	794	[a]42.53	841	[a]45.03	597	[a]31.98
Total	10,301	46.83	8,741	39.74	9,182	41.07

Month.	1907		1908		1909		1910	
	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.	Number of deaths.	Annual death rate per 1,000.
January	632	[b]33.31	1,117	[b]58.87	720	[b]37.94	729	[c]36.64
February	473	[b]27.59	733	[b]41.29	616	[b]35.94	638	[c]35.50
March	464	[b]24.45	720	[b]37.94	618	[b]32.57	642	[c]32.26
April	416	[b]22.65	626	[b]34.09	550	[b]29.95	594	[c]30.85
May	462	[b]24.35	633	[b]33.34	544	[b]28.67	604	[c]30.35
June	402	[b]21.89	678	[b]36.92	552	[b]30.06	646	[c]33.55
July	515	[b]27.14	977	[b]51.49	691	[b]36.41	----------	----------
August	653	[b]34.41	1,148	[b]60.50	679	[b]35.78	----------	----------
September	768	[b]41.82	1,362	[b]74.17	649	[b]35.34	----------	----------
October	877	[b]46.22	991	[b]52.23	700	[b]36.90	----------	----------
November	725	[b]39.48	837	[b]45.58	778	[b]42.37	----------	----------
December	900	[b]47.43	824	[b]43.42	839	[b]44.21	----------	----------
Total	7,287	[b]32.59	10,646	[b]47.62	7,936	[b]35.50	----------	----------

[a] Death rate computed on population of 219,941 (Official census, 1903).
[b] Death rate computed on population of 223,542 (Health census, 1907).
[c] Death rate computed on population of 234,409 (Health census, 1910).

Mortality compared with same period of previous years.

Year.	First quarter.		Second quarter.		Third quarter.		Fourth quarter.	
	Number of deaths.	Annual death rate per 1,000	Number of deaths.	Annual death rate per 1,000	Number of deaths.	Annual death rate per 1,000	Number of deaths.	Annual death rate per 1,000
1901	2,327	42.93	2,410	43.97	2,077	37.49	2,561	46.22
1902	2,236	41.25	4,433	80.89	5,067	91.46	2,715	49.00
1903	1,652	30.48	1,911	34.87	2,710	48.91	3,085	55.68
1904	2,256	41.16	2,314	42.22	2,962	53.46	2,769	49.98
1905	1,856	34.24	1,649	30.09	2,601	46.94	2,635	47.56
1906	1,932	35.64	1,848	33.72	3,468	62.59	1,934	34.90
1907	1,569	28.48	1,280	22.98	1,936	34.38	2,502	44.42
1908	2,570	46.14	1,937	34.77	3,487	61.92	2,652	47.09
1909	1,954	35.47	1,646	29.55	2,019	35.85	2,317	41.14
1910	2,009	34.78	1,844	31.57	----------	----------	----------	----------

Number of deaths, with causes, occurring among residents in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)	1		1	1	44	42			89
4. Intermittent fever and malarial cachexia					57	35	12		104
4a. Malarial cachexia					5	1			6
8. Whooping cough					5	7			12
9. Diphtheria and croup					3				3
10. Influenza			1		13	10			24
12. Asiatic cholera			1	1	141	121	6		270
14. Dysentery	2	1	5	1	109	76	6	1	201
17. Leprosy					12	7			19
18. Erysipelas					1	8			9
19. Other epidemic diseases (beri-beri)	2				502	423	41	2	970
20. Purulent infection and septicæmia		2	1	1	10	13	1		28
21. Glanders and farcy					2				2
22. Malignant pustule					1				1
23. Rabies					1				1
24. Actinomycosis, trichinosis, etc						1			1
26. Tuberculosis of the larynx				1	12	7			20
27. Tuberculosis of the lungs	1	1	7	1	582	444	64	1	1,101
28. Tuberculosis of the meninges					16	25	1		42
29. Abdominal tuberculosis			1	1	23	17			42
30. Pott's disease					3	2			5
31. Cold abscess, abscess by congestion						1			1
32. White swelling					1				1
33. Tuberculosis of other organs					3	1			4
34. General tuberculosis					6	5	1		12
36. Syphilis	1		1		3	1	1		7
39. Cancer and other malignant tumors of the buccal cavity					3	7	1		11
40. Cancer and other malignant tumors of the stomach and liver				3	6	4	2		15
41. Cancer and other malignant tumors of the peritoneum, intestines, and rectum					6	1			7
42. Cancer and other malignant tumors of the female genital organs						13			13
43. Cancer and other malignant tumors of the breast						2			2
44. Cancer and other malignant tumors of the skin						1			1
45. Cancer and other malignant tumors of other organs or of organs not specified	2				14	7			23
46. Other tumors (tumors of the female genital organs excepted)						1			1
47. Acute articular rheumatism					6	4			10
48. Chronic rheumatism and gout					8	5			13
49. Scurvy	1				2	1			4
50. Diabetes	2			2	5				9
51. Exophthalmic goiter						1			1
54. Anæmia chlorosis			1		2	3			6
56. Acute and chronic alcoholism	3				1	2	1		7
59. Other chronic poisoning							1		1
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis						2			2
61. Simple meningitis	2	1			58	62			123
62. Progressive locomotor ataxia					2		4		6
63. Other diseases of the spinal cord					2	3			5
64. Congestion and hemorrhage of the brain		1	2		44	32	4		83
65. Softening of the brain							9		9
66. Paralysis without specified cause	1				3	4	2		10
67. General paralysis	1				6	5	1		13
68. Other forms of mental alienation			2		9	2	3		16
69. Epilepsy					1	4		1	6
70. Convulsions (nonpuerperal, 5 years and over)						1			1
71. Convulsions (under 5 years)	2			1	420	326	9		758
72. Tetanus					160	132			292
74. Other diseases of the nervous system	1				3	1			5
76. Diseases of the ear					1	1			2

Number of deaths, with causes, occurring among residents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Total.
III. Diseases of the circulatory system.									
77. Pericarditis	----	----	----	----	----	1	----	----	1
78. Acute endocarditis	----	----	1	----	11	14	2	----	28
79. Organic diseases of the heart	2	----	1	----	48	33	16	----	100
80. Angina pectoris	----	----	----	----	18	13	----	----	31
81. Diseases of the arteries (atheroma, aneurism, etc.)	----	----	1	1	17	7	1	----	27
82. Embolism and thrombosis	----	----	----	----	3	5	----	----	8
IV. Diseases of the respiratory system.									
88. Diseases of the larynx	----	----	----	----	3	2	----	----	5
90. Acute bronchitis	1	2	----	----	417	349	4	4	777
91. Chronic bronchitis	----	----	1	----	159	163	22	----	345
92. Broncho-pneumonia	----	----	----	----	57	58	1	----	116
93. Pneumonia	----	----	----	----	34	40	----	----	74
94. Pleurisy	----	----	----	----	5	5	----	----	10
95. Congestion and apoplexy of the lungs	1	----	2	----	4	7	----	----	14
97. Asthma	----	----	----	----	10	20	----	----	30
98. Pulmonary emphysema	----	----	----	----	3	1	----	----	4
99. Other diseases of the respiratory system (phthisis excepted)	----	----	----	----	1	----	----	----	1
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa	----	----	----	----	2	1	----	----	3
101. Diseases of the pharynx	----	----	----	----	2	3	1	----	6
102. Diseases of the esophagus	----	----	----	----	1	----	2	----	3
103. Ulcer of the stomach	----	----	----	----	2	3	----	----	5
104. Other diseases of the stomach (cancer excepted)	----	----	----	----	12	7	1	----	20
105. Diarrhea and enteritis (under 2 years)	1	2	----	----	96	84	----	----	183
105a. Chronic diarrhea and enteritis (under 2 years)	1	1	----	----	74	78	----	----	154
106. Diarrhea and enteritis (2 years and over)	1	----	3	1	106	80	----	----	191
107. Intestinal parasites	----	----	----	----	8	9	----	----	17
108. Hernias and intestinal obstructions	----	----	----	----	12	5	2	----	19
110. Acute yellow atrophy of the liver	----	----	----	----	6	2	2	----	10
111. Hydatid tumors of the liver	----	----	----	----	1	----	----	----	1
112. Cirrhosis of the liver	----	----	----	----	12	5	1	----	18
113. Biliary calculi	----	----	----	----	1	1	----	----	2
114. Other diseases of the liver	----	----	----	----	22	21	----	----	43
116. Simple peritonitis (nonpuerperal)	----	----	2	----	6	5	----	----	13
117. Other diseases of the digestive system (cancer and tuberculosis excepted)	----	----	----	1	2	----	----	----	3
118. Appendicitis and abscess of the iliac fossa	----	----	----	----	9	3	1	----	13
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis	----	----	----	1	26	23	----	----	50
120. Bright's disease	1	----	1	----	40	49	4	----	95
121. Other diseases of the kidneys and their adnexa	----	----	----	----	1	1	----	----	2
122. Calculi of urinary tract	----	----	----	----	3	2	----	----	5
123. Diseases of the bladder	----	----	----	----	2	----	----	----	2
124. Diseases of the urethra, urinary abscess, etc.	----	----	----	----	1	----	----	----	1
125. Diseases of the prostate	----	----	1	----	----	----	----	----	1
126. Nonvenereal diseases of the male genital organs	----	----	----	----	1	----	----	----	1
127. Metritis	----	----	----	----	----	1	----	----	1
128. Uterine hemorrhage (nonpuerperal)	----	----	----	----	----	6	----	----	6
129. Uterine tumor (noncancerous)	----	----	----	----	----	1	----	----	1
131. Cysts and other tumors of the ovary	----	----	----	----	----	2	----	----	2

Number of deaths, with causes, occurring among residents in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
VII. The puerperal state.									
134. Accidents of pregnancy	-----	-----	-----	-----	-----	8	-----	-----	8
135. Puerperal hemorrhage	-----	-----	-----	1	-----	29	-----	-----	30
136. Other accidents of labor	-----	-----	-----	-----	-----	6	-----	-----	6
137. Puerperal septicæmia	-----	-----	-----	1	-----	29	-----	-----	30
138. Puerperal albuminuria and convulsions	-----	-----	-----	-----	-----	7	-----	-----	7
140. Other puerperal accidents—sudden death	-----	-----	-----	-----	-----	2	-----	-----	2
VIII. Diseases of the skin and cellular tissue.									
142. Gangrene	-----	-----	-----	-----	4	2	-----	-----	6
143. Furuncle	-----	-----	-----	-----	4	1	-----	-----	5
144. Acute abscess, phlegmon	-----	-----	-----	-----	4	2	-----	-----	6
145. Other diseases of the skin and its adnexa	-----	-----	-----	-----	1	3	-----	-----	4
IX. Diseases of the organs of locomotion.									
146. Nontuberculous diseases of the bones	-----	-----	-----	-----	5	5	-----	-----	10
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)	-----	-----	-----	-----	1	-----	-----	-----	1
X. Malformations.									
150. Congenital malformations (stillbirths excluded)	2	-----	-----	-----	13	9	-----	-----	24
XI. Early infancy.									
151. Congenital debility, icterus and sclerema	2	2	2	1	384	313	4	4	712
152. Other diseases peculiar to early infancy	-----	-----	-----	-----	21	15	-----	-----	36
153. Lack of care	-----	-----	-----	-----	13	7	-----	-----	20
XII. Old age.									
154. Senile debility	-----	-----	1	-----	74	136	-----	-----	211
XIII. External causes.									
155. Suicide by poison	-----	-----	-----	-----	-----	1	1	-----	2
157. Suicide by hanging or strangulation	-----	-----	-----	-----	1	-----	-----	-----	1
160. Suicide by cutting instruments	2	-----	-----	-----	1	-----	-----	-----	3
164. Fractures	1	-----	1	-----	11	3	-----	-----	16
166. Other accidental traumatisms	-----	-----	-----	-----	14	2	3	-----	19
167. Burns and scalds	-----	-----	-----	-----	7	7	1	-----	15
172. Accidental drowning	-----	-----	1	-----	9	3	2	-----	15
173. Inanition (starvation)	-----	-----	-----	-----	-----	1	-----	-----	1
175. Other acute poisonings	-----	1	-----	-----	-----	-----	-----	-----	1
XIV. Ill-defined diseases.									
177. Dropsy	-----	-----	1	-----	-----	-----	-----	-----	1
179. Causes of death unspecified or ill defined	2	1	1	-----	66	52	3	-----	125
Total	39	15	43	20	4,188	3,627	244	13	8,189
Grand total	54		63		7,815		257		8,189

Number of deaths, with causes, occurring among transients in the city of Manila.

[Stillbirths not included in computing death rate of the city.]

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
I. General diseases.									
1. Typhoid fever (abdominal typhus)					5	2	2		9
4. Intermittent fever and malarial cachexia			1		5				6
4a. Malarial cachexia					2	1			3
9. Diphtheria and croup		1							1
10. Influenza					1				1
12. Asiatic cholera					16	12			28
14. Dysentery	1	1			8	2			12
17. Leprosy					11	6			17
18. Erysipelas					1				1
19. Other epidemic diseases (beri-beri)			1	1	18	11	1		32
26. Tuberculosis of the larynx						1			1
27. Tuberculosis of the lungs			3		122	17	2		144
28. Tuberculosis of the meninges					1		1		2
29. Abdominal tuberculosis					4	2			6
30. Pott's disease			1			1			2
33. Tuberculosis of other organs					1				1
34. General tuberculosis					10	3			13
36. Syphilis					2				2
40. Cancer and other malignant tumors of the stomach and liver					3				3
42. Cancer and other malignant tumors of the female genital organs						1			1
45. Cancer and other malignant tumors of other organs or of organs not specified			1	1	5	2			9
48. Chronic rheumatism and gout						1			1
53. Leukæmia							1		1
54. Anæmia chlorosis						1			1
56. Acute and chronic alcoholism	2		1						3
II. Diseases of the nervous system and of the organs of special sense.									
60. Encephalitis							1		1
61. Simple meningitis					2	2			4
64. Congestion and hemorrhage of the brain			2		5	1			8
65. Softening of the brain							1		1
66. Paralysis without specified cause							1		1
67. General paralysis			1						1
68. Other forms of mental alienation					1				1
71. Convulsions (under 5 years)					14	7			21
72. Tetanus			1		2	1	1		5
76. Diseases of the ear			1						1
III. Diseases of the circulatory system.									
77. Pericarditis					2	1			3
78. Acute endocarditis						1			1
79. Organic diseases of the heart	1				5	3	2		11
80. Angina pectoris					1	1			2
81. Diseases of the arteries (atheroma, aneurism, etc.)						3			3
82. Embolism and thrombosis					1				1
IV. Diseases of the respiratory system.									
90. Acute bronchitis					10	6	1		17
91. Chronic bronchitis					4	6			10
92. Broncho-pneumonia	1		1		2	2			6
93. Pneumonia	2				7	1			10
95. Congestion and apoplexy of the lungs					2				2
96. Gangrene of the lungs					1	1			2
97. Asthma					2	2			4

Number of deaths, with causes, occurring among transients in the city of Manila—Continued.

Causes of death.	Americans.		Foreigners.		Filipinos.		Chinese.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
V. Diseases of the digestive system.									
100. Diseases of the mouth and its adnexa					1				1
101. Diseases of the pharynx						1			1
103. Ulcer of the stomach					1				1
105. Diarrhea and enteritis (under 2 years)	1				5	2			8
105a. Chronic diarrhea and enteritis (under 2 years)					2	1			3
106. Diarrhea and enteritis (2 years and over)	1				7	5	1		14
107. Intestinal parasites					1				1
108. Hernias and intestinal obstructions					1				1
109. Other diseases of the intestines					1				1
112. Cirrhosis of the liver	1				4				5
113. Biliary calculi					1				1
114. Other diseases of the liver	1		2		1				4
116. Simple peritonitis (nonpuerperal)		1	1						2
117. Other diseases of the digestive system (cancer and tuberculosis excepted)			1						1
118. Appendicitis and abscess of the iliac fossa	1				1				2
VI. Diseases of the genito-urinary system and its adnexa.									
119. Acute nephritis					1	1			2
120. Bright's disease					7	2			9
121. Other diseases of the kidneys and their adnexa						1			1
122. Calculi of the urinary tract					3				3
VII. The puerperal state.									
134. Accidents of pregnancy						2			2
135. Puerperal hemorrhage						1			1
136. Other accidents of labor						1			1
137. Puerperal septicæmia						2			2
138. Puerperal albuminuria and convulsions				1					1
VIII. Diseases of the skin and cellular tissue.									
143. Furuncle						1			1
145. Other diseases of the skin and its adnexa					1				1
X. Malformations.									
150. Congenital malformations (stillbirths excluded)						1			1
XI. Early infancy.									
151. Congenital debility, icterus and sclerema		1		1	3	6			11
XII. Old age.									
154. Senile debility					2	3			5
XIII. External causes.									
157. Suicide by hanging or strangulation					1				1
164. Fractures	1				2				3
166. Other accidental traumatisms					3	1			4
167. Burns and scalds			1		1				2
176. Other external violence					19				19
XIV. Ill-defined diseases									
179. Causes of death unspecified or ill defined					2	4			6
Total	13	4	19	4	347	136	15		538
Grand total	17		23		483		15		538

Number of deaths by nationality, sex, and age.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)													1								8	10							4	10		
4. Intermittent fever and malarial cachexia													4	1							14	10							6	2		
4a. Malarial cachexia																													2			
8. Whooping cough													4	2							1	4										
9. Diphtheria and croup																		1			2								1			
10. Influenza													3	4							8	2								1		
12. Asiatic cholera													6	12							31	28							7	10		
14. Dysentery						1				1	1		12	7			1	1		1	61	49		1					18	8		
17. Leprosy																													1			
18. Erysipelas					1	1								5								1										
19. Other epidemic diseases (beri-beri)					14	11			2				404	332		1					28	19	1						2	3		
20. Purulent infection and septicæmia		1			2	2							2	4							3	1										
23. Rabies																													1			
26. Tuberculosis of the larynx																					1	1										
27. Tuberculosis of the lungs													9	8							45	43							9	6		
28. Tuberculosis of the meninges													8	11							3	8	1						1	1		
29. Abdominal tuberculosis													3								4	2								2		
30. Pott's disease																					2	1										
33. Tuberculosis of other organs																						1										
34. General tuberculosis													2									2										
36. Syphilis													1																	1		
39. Cancer and other malignant tumors of the buccal cavity																														1		
45. Cancer and other malignant tumors of other organs or of organs not specified																						1										
47. Acute articular rheumatism													1																			
48. Chronic rheumatism and gout														1																		
49. Scurvy									1				1																			
54. Anæmia, chlorosis														1																		
II. Diseases of the nervous system and the organs of special sense.																																
61. Simple meningitis		1			1				1				30	29			1				24	31							1	1		
63. Other diseases of the spinal cord																						2								1		
64. Congestion and hemorrhage of the brain						1																							1			
69. Epilepsy													1																	1		1

71. Convulsions (under 5 years)	1				67	59	4		1			1	345	262	4						22	12	1									
72. Tetanus					151	124							2	2							1	1								1		
74. Other diseases of the nervous system																													1			
76. Diseases of the ear																					1	1										
III. Diseases of the circulatory system.																																
77. Pericarditis														2																		
78. Acute endocarditis													1	2							1	1								2		
79. Organic diseases of the heart													1	2							1								2			
IV. Diseases of the respiratory system.																																
88. Diseases of the larynx													1	1							2	1										
90. Acute bronchitis					11	8			1	1			355	279	4	3		1			59	64	1						2	1		1
91. Chronic bronchitis					1								84	78	1						53	61	1						8	1		
92. Broncho-pneumonia					1	2					1		41	34							12	17	1						2	2		
93. Pneumonia					1								12	13							5	8.							1	1		
94. Pleurisy													3	1								2										
95. Congestion and apoplexy of the lungs						1							1																1			
97. Asthma													2	3							1	3							1			
V. Diseases of the digestive system.																																
100. Diseases of the mouth and its adnexa													1	1							1											
101. Diseases of the pharynx																					2	1								2		
104. Other diseases of the stomach (cancer excepted)						1							6	2							1											
105. Diarrhea and enteritis (under 2 years)					4	2			1	1			72	54			1	1			25	30										
105a. Chronic diarrhea and enteritis (under 2 years)									1	1			35	26							41	58										
106. Diarrhea and enteritis (2 years and over)																	1		1		87	63							7	4		
107. Intestinal parasites														1							6	8										
108. Hernia and intestinal obstructions													1																			
110. Acute yellow atrophy of the liver													2								2	1										
112. Cirrhosis of the liver													1																			
114. Other diseases of the liver													10	11							2	3										
116. Simple peritonitis (nonpuerperal)														1					1		1											
118. Appendicitis and abscess of the iliac fossa														1								1										
VI. Diseases of the genito-urinary system and its adnexa.																																
119. Acute nephritis						1						1	11	6							7	7							2			
120. Bright's disease													3	3							9	6								2		
123. Diseases of the bladder					1								1																			
VIII. Diseases of the skin and cellular tissue.																																
142. Gangrene													1									1								1		
144. Acute abscess, phlegmon													1	1							2	1										
145. Other diseases of the skin and its adnexa													2	1								2										

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	Less than 1 day to 30 days.								From 30 days to 1 year.								From 1 to 5 years.								From 5 to 10 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
IX. Diseases of the organs of locomotion.																																
146. Nontuberculous diseases of the bones													1	2							2	2										
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)																					1											
X. Malformations.																																
150. Congenital malformations (stillbirths excepted)	2				11	7							1								1	2								1		
XI. Early infancy.																																
151. Congenital debility, icterus and sclerema	2	2	2	2	269	206	4	4		1			117	112							1	1										
152. Other diseases peculiar to early infancy					19	15							2																			
153. Lack of care					3	3							9	4							1											
XIII. External causes.																																
164. Fractures													1								1								1			
166. Other accidental traumatisms																						1										
167. Burns and scalds													1								3	2							1	1		
172. Accidental drowning																					2	1							1			
173. Inanition (starvation)														1																		
175. Other acute poisonings										1																						
XIV. Ill-defined diseases.																																
179. Causes of death unspecified or ill defined					3					1			48	38			1				6	10										
Total	5	4	2	2	560	445	8	4	8	7	2	2	1,667	1,361	9	4	5	4	2	1	592	583	6	1					79	67		2
Grand total	9		4		1,005		12		15		4		3,028		13		9		3		1,175		7						146		2	

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)					4	6							8	6			1				7	4	1						5	1	1	
4. Intermittent fever and malarial cachexia			1		4	1							7	4	1						4	5	2						6	8	2	
4a. Malarial cachexia													1								1	1								1		
10. Influenza													1								1									1		
12. Asiatic cholera					5	8							15	9							18	12							18	18	1	
14. Dysentery					2	2							5	8							4	1			1		2		1			
17. Leprosy					1								8	1							3	4							4	5		
19. Other epidemic diseases (beri-beri)					3	1							18	9							8	15	1						10	11		1
20. Purulent infection and septicæmia					1																							1	1	1		
21. Glanders and farcy													1																			
26. Tuberculosis of the larynx														8							2	1							1			
27. Tuberculosis of the lungs					7	3						1	59	18	8				1		86	44	1		1				80	77	10	
28. Tuberculosis of the meninges					1	1							2								1	2							1	1		
29. Abdominal tuberculosis					3								8	8								2								1		
30. Pott's disease														1															1	1		
33. Tuberculosis of other organs													1								1								1			
34. General tuberculosis					1								1	1							6								2			
36. Syphilis											1										1											
42. Cancer and other malignant tumors of the female genital organs						1																1										
45. Cancer and other malignant tumors of other organs or of organs not specified														1							2				1					1		
46. Other tumors (tumors of the female genital organs excepted)														1																		
47. Acute articular rheumatism					1								1																			
49. Scurvy																					1											
50. Diabetes																									1							
53. Leukæmia																							1									
54. Anæmia, chlorosis													1	1																1		
56. Acute and chronic alcoholism																									2				1			
59. Other chronic poisonings																															1	

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		For eigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
II. Diseases of the nervous system and of the organs of special sense.																																
60. Encephalitis																						1										
61. Simple meningitis						1															1	1										
64. Congestion and hemorrhage of the brain					1																	1					1		1	1		
65. Softening of the brain																															2	
67. General paralysis														1																1	1	
68. Other forms of mental alienation																					1								3	1		
69. Epilepsy																														2		
70. Convulsions (nonpuerperal, 5 years and over)																						1										
72. Tetanus					1	1							1						1		4	1								2		
74. Other diseases of the nervous system													1																	1		
76. Diseases of the ear																											1					
III. Diseases of the circulatory system.																																
78. Acute endocarditis					2	1							1										1						2	3		
79. Organic diseases of the heart													1	2							3	2							1	2	1	
80. Angina pectoris													2	2															1	3		
81. Diseases of the arteries, atheroma, aneurism, etc																												1		1		
82. Embolism and thrombosis																					1								1			
IV. Diseases of the respiratory system.																																
91. Chronic bronchitis																						1										
92. Broncho-pneumonia																													1	1		
93. Pneumonia													1	2							5	1							4	1		
94. Pleurisy																													1			
95. Congestion and apoplexy of the lungs						1															1	1			1					1		
96. Gangrene of the lungs																					1											
97. Asthma						1																										

V Diseases of the digestive system.																																
100. Diseases of the mouth and its adnexa					1																											
101. Diseases of the pharynx							1															1										
103. Ulcer of the stomach													1									1										
104. Other diseases of the stomach (cancer excepted)																													3			
106. Diarrhea and enteritis (2 years and over)					1									1	1						1	1							1			
108. Hernias and intestinal obstructions					1										1						1								1	2		
110. Acute yellow atrophy of the liver							1						1																			
111. Hydatid tumors of the liver													1																			
112. Cirrhosis of the liver																					3								2			
113. Biliary calculi																													1			
114. Other diseases of the liver													3									1					1			1		
116. Simple peritonitis (nonpuerperal)											1											2							2			
117. Other diseases of the digestive system (cancer and tuberculosis excepted)																				1							1					
118. Appendicitis and abscess of the iliac fossa					1										1						2								2			
VI. Diseases of the genito-urinary system and its adnexa.																																
119. Acute nephritis						1							2	1							1								1			
120. Bright's disease													1	1							4	4					1		1	2		
122. Calculi of the urinary tract													1																			
126. Nonvenereal diseases of the male genital organs																					1											
127. Metritis														1																		
128. Uterine hemorrhage (nonpuerperal)																						1								2		
129. Uterine tumor (noncancerous)																														1		
VII. The puerperal state.																																
134. Accidents of pregnancy														3								2								8		
135. Puerperal hemorrhage														3								5								14		
136. Other accidents of labor														1								8								8		
137. Puerperal septicæmia														6								5								10		
138. Puerperal albuminuria and convulsions														1								1								1		
140. Other puerperal accidents—sudden death																						1								1		
VIII. Diseases of the skin and cellular tissue.																																
144. Acute abscess, phlegmon					1																											
IX. Diseases of the organs of locomotion.																																
146. Nontuberculous diseases of the bones																					1								1			

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 10 to 15 years.								From 15 to 20 years.								From 20 to 25 years.								From 25 to 30 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
XIII. External causes.																																
155. Suicide by poison															1																	
157. Suicide by hanging or strangulation													1																			
160. Suicide by cutting instruments																									1							
164. Fractures													3								4								2			
166. Other accidental traumatisms					1								1	1							2										1	
167. Burns and scalds																											1			1		
172. Accidental drowning													1	1					1										1	1		
176. Other external violence																					4								3			
XIV. Ill-defined diseases.																																
179. Causes of death unspecified or ill defined													2						1										3			
Total			1		43	24	2				2	1	152	88	7		1		4	1	187	130	7		8		8	2	171	180	20	1
Grand total			1		67		2				3		240		7		1		5		317		7		8		10		351		21	

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. General diseases.																																
1. Typhoid fever (abdominal typhus)				1	5	1					1		4	1							2	1								1		
4. Intermittent fever and malarial cachexia					3		2						2	1	2						3	2	1						2			
4a. Malarial cachexia													1																			
8. Whooping cough						1																										
10. Influenza													1	1							1											
12. Asiatic cholera				1	14	9	2						13	8							8	5	2				1		5	7		
14. Dysentery					2								1		3		1		1		1		1							1		
17. Leprosy					1	1							4	1							1								8			
18. Erysipelas																					1											
19. Other epidemic diseases (beri-beri)				1	5	12	5						8	7	7				1		1	5	5						4	2	9	
20. Purulent infection and septicæmia						2				1									1											2		
21. Glanders and farcy					1																											
22. Malignant pustule																													1			
26. Tuberculosis of the larynx					4	1							1	1								1										
27. Tuberculosis of the lungs					76	48	8				3		97	56	12				2		53	27	15			1	2		53	42	6	
28. Tuberculosis of the meninges							1																									
29. Abdominal tuberculosis				1	1								4	1					1		3	2							1	1		
30. Pott's disease																											1					
32. White swelling					1																											
33. Tuberculosis of other organs					1																											
34. General tuberculosis					1	2							2		1						1	1								1		
36. Syphilis													1		1						1				1							
39. Cancer and other malignant tumors of the buccal cavity																						1							1		1	
40. Cancer and other malignant tumors of the stomach and liver					2		1							1														1	8			
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum					1								2																1			
42. Cancer and other malignant tumors of the female genital organs						2								3								2								4		
43. Cancer and other malignant tumors of the breast														1																1		
45. Cancer and other malignant tumors of other organs or of organs not specified					1						1		1							1					1				2			
47. Acute articular rheumatism					1								1																1	2		
48. Chronic rheumatism and gout														1																		
49. Scurvy						1																										
50. Diabetes																									1							
51. Exophthalmic goiter						1																										
54. Anæmia, chlorosis											1										1									1		
56. Acute and chronic alcoholism									1		1												1		1					1		

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
II. Diseases of the nervous system and of the organs of special sense.																																
60. Encephalitis															1							1										
61. Simple meningitis					1																											
62. Progressive locomotor ataxia							1																									
63. Other diseases of the spinal cord					1																								1			
64. Congestion and hemorrhage of the brain					2	7							3	1	2						2	2	2						6	1		
65. Softening of the brain							3								1								2								1	
66. Paralysis whithout specified cause									1														1									
67. General paralysis			1		1								2	2																		
68. Other forms of mental alienation					2		1				1		1		1						1		1						2	1		
69. Epilepsy														1																		
72. Tetanus					1								1	1	1																	
74. Other diseases of the nervous system					1				1																							
III. Diseases of the circulatory system.																																
77. Pericarditis													1																			
78. Acute endocarditis							1						1	1								3										
79. Organic diseases of the heart	1				2	3	5		1				7	1	1		1				2	7	7						1	5	2	
80. Angina pectoris					1	2							2								2	1							3	1		
81. Diseases of the arteries, atheroma, aneurism, etc			1											1							2								2			
82. Embolism and thrombosis						1																1								1		
IV. Diseases of the respiratory system.																																
90. Acute bronchitis						1																								1		
91. Chronic bronchitis						1									1						1	1	3						3	6	2	
92. Broncho-pneumonia									1												1									1		
93. Pneumonia					1								2	3			1				1	2							1	1		
94. Pleurisy						1								1																		
95. Congestion and apoplexy of the lungs			1			2																1					1					
96. Gangrene of the lungs						1																										
97. Asthma						2								2							1								1			

98. Pulmonary emphysema													1	1																		
99. Other diseases of the respiratory system (phthisis excepted)					1																											
V. Diseases of the digestive system.																																
102. Diseases of the esophagus							1																								1	
103. Ulcer of the stomach													1																			
104. Other diseases of the stomach (cancer excepted)						1																	1						1			
106. Diarrhea and enteritis (2 years and over)	1				1	3							4	2	1						1	1							3	2		
107. Intestinal parasites					1																											
108. Hernia and intestinal obstructions						1							1	1							2								1			
110. Acute yellow atrophy of the liver							1																									
112. Cirrhosis of the liver					2	1			1				1	1							1											
114. Other diseases of the liver	1				2						1		2	1															2	1		
116. Simple peritonitis (nonpuerperal)										1	1		1	2															1			
117. Other diseases of the digestive system (cancer and tuberculosis excepted)													1																			
118. Appendicitis and abscess of the iliac fossa	1				2								1								1	1										
VI. Diseases of the genito-urinary system and its adnexa.																																
119. Acute nephritis					1	1								2															1	2		
120. Bright's disease	1				3	1	2						1	2	1						4	2							2		1	
121. Other diseases of the kidneys and their adnexa													1	1																1		
122. Calculi of the urinary tract						1															1								2	1		
128. Uterine hemorrhage (nonpuerperal)						2																										
131. Cysts and other tumors of the ovary														1																		
VII. The puerperal state.																																
134. Accidents of pregnancy						1								1																		
135. Puerperal hemorrhage				1		1								6								1										
137. Puerperal septicæmia				1		6								2								2										
138. Puerperal albuminuria and convulsions						1						1		2								1										
VIII. Diseases of the skin and cellular tissue.																																
142. Gangrene																					1								2			
143. Furuncle													2																1			
IX. Diseases of the organs of locomotion.																																
146. Nontuberculous diseases of the bones																														1		

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 30 to 35 years.								From 35 to 40 years.								From 40 to 45 years.								From 45 to 50 years.							
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreignners.		Filipinos.		Chinese.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
XIII. External causes.																																
155. Suicide by poison																														1		
157. Suicide by hanging or strangulation																													1			
160. Suicide by cutting instruments																					1											
164. Fractures					1						1											1			1					2		
166. Other accidental traumatisms					2		2						3								2								3			
167. Burns and scalds					1								2																		1	
172. Accidental drowning					2																		1									
176. Other external violence					2								4								2								3			
XIV. Ill-defined diseases.																																
179. Causes of death unspecified or ill defined	1				1		1						1	3							1	1								1		
Total	6		3	6	155	122	37		6	2	11	1	185	125	36		3		6	1	107	76	43		5	1	5	1	120	96	24	
Grand total	6		9		277		37		8		12		310		36		3		7		183		43		6		6		216		24	

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
I. General diseases.																									
1. Typhoid fever (abdominal typhus)					1	3											1		1	1	49	44	2		98
4. Intermittent fever and malarial cachexia					7	6	2												1		62	35	12		110
4a. Malarial cachexia					2																7	2			9
8. Whooping cough																					5	7			12
9. Diphtheria and croup																		1			3				4
10. Influenza			1		4	1													1		14	10			25
12. Asiatic cholera					16	15	1						1	2					1	1	157	133	6		298
14. Dysentery			1		10	6	2										3	2	5	1	117	78	6	1	213
17. Leprosy					2	1															23	13			36
18. Erysipelas						1															2	8			10
19. Other epidemic diseases (beri-beri)					20	7	14										2		1	1	520	434	42	2	1,002
20. Purulent infection and septicæmia					1	1	1											2	1	1	10	13	1		28
21. Glanders and farcy																					2				2
22. Malignant pustule																					1				1
23. Rabies																					1				1
24. Actinomycosis, trichinosis, etc						1																1			1
26. Tuberculosis of the larynx				1	3															1	12	8			21
27. Tuberculosis of the lungs			2		129	89	11	1					1				1	1	10	1	704	461	66	1	1,245
28. Tuberculosis of the meninges						1															17	25	2		44
29. Abdominal tuberculosis					5	4								1					1	1	27	19			48
30. Pott's disease																			1		3	3			7
31. Cold abscess and abscess by congestion						1																1			1
32. White swelling																					1				1
33. Tuberculosis of other organs																					4	1			5
34. General tuberculosis						1															16	8	1		25
36. Syphilis					1												1		1		5	1	1		9
39. Cancer and other malignant tumors of the buccal cavity					2	5															3	7	1		11
40. Cancer and other malignant tumors of the stomach and liver				2	4	3	1													3	9	4	2		18
41. Cancer and other malignant tumors of peritoneum, intestines, and rectum					2	1															6	1			7
42. Cancer and other malignant tumors of the female genital organs						1																14			14
43. Cancer and other malignant tumors of the breast																						2			2
44. Cancer and other malignant tumors of the skin						1																1			1
45. Cancer and other malignant tumors of other organs or of organs not specified					13	6											2		1	1	19	9			32

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
I. General diseases—Continued.																									
46. Other tumors (tumors of the female genital organs excepted)																						1			1
47. Acute articular rheumatism						2															6	4			10
48. Chronic rheumatism and gout					8	4															8	6			14
49. Scurvy																	1				2	1			4
50. Diabetes				2	5												2			2	5				9
51. Exophthalmic goiter																						1			1
53. Leukæmia																							1		1
54. Anæmia, chlorosis																			1		2	4			7
56. Acute and chronic alcoholism	1					1											5		1		1	2	1		10
59. Other chronic poisonings																							1		1
II. Diseases of the nervous system and of the organs of special sense.																									
60. Encephalitis																						2	1		3
61. Simple meningitis					1	1							1				2	1			60	64			127
62. Progressive locomotor ataxia					2		3														2		4		6
63. Other diseases of the spinal cord																					2	3			5
64. Congestion and hemorrhage of the brain		1	3		33	19												1	4		49	33	4		91
65. Softening of the brain							1																10		10
66. Paralysis without specified cause					3	4	2										1				3	4	3		11
67. General paralysis	1				3	1											1		1		6	5	1		14
68. Other forms of mental alienation			1																2		10	2	3		17
69. Epilepsy																					1	4		1	6
70. Convulsions (nonpuerperal, 5 years and over)																						1			1
71. Convulsions (under 5 years)																	2			1	434	333	9		779
72. Tetanus																			1		162	133	1		297
74. Other diseases of the nervous system																	1				3	1			5
76. Diseases of the ear																			1		1	1			3
III. Diseases of the circulatory system.																									
77. Pericarditis					1																2	2			4
78. Acute endocarditis			1		3	2													1		11	15	2		29
79. Organic diseases of the heart			1		31	12	2						1				3		1		53	36	18		111
80. Angina pectoris					8	5															19	14			33

81. Diseases of the arteries, atheroma, aneurism, etc.					18	8	1												1	1	17	10	1		30
82. Embolism and thrombosis					2	2															4	5			9
IV. Diseases of the respiratory system.																									
88. Diseases of the larynx																					3	2			5
90. Acute bronchitis						1											1	2			427	355	5	4	794
91. Chronic bronchitis			1		18	20	14												1		163	169	22		355
92. Broncho-pneumonia					1	3											1		1		59	60	1		122
93. Pneumonia	1				7	9											2				41	41			84
94. Pleurisy					1																5	5			10
95. Congestion and apoplexy of the lungs					3												1		2		6	7			16
96. Gangrene of the lungs																					1	1			2
97. Asthma					6	11															12	22			34
98. Pulmonary emphysema					2																3	1			4
99. Other diseases of the respiratory system (phthisis excepted)																					1				1
V. Diseases of the digestive system.																									
100. Diseases of the mouth and its adnexa																					3	1			4
101. Diseases of the pharynx																					2	4	1		7
102. Diseases of the esophagus					1																1		2		3
103. Ulcer of the stomach					1	2															3	3			6
104. Other diseases of the stomach (cancer excepted)					1	3															12	7	1		20
105. Diarrhea and enteritis (under 2 years)																	2	2			101	86			191
105a. Chronic diarrhea and enteritis (under 2 years)																	1	1			76	79			157
106. Diarrhea and enteritis (2 years and over)			2	1	7	8											2		3	1	113	85	1		205
107. Intestinal parasites					2																9	9			18
108. Hernia and intestinal obstructions					5	1	1														13	5	2		20
109. Other diseases of the intestines					1																1				1
110. Acute yellow atrophy of the liver					1	1															6	2	2		10
111. Hydatid tumors of the liver																					1				1
112. Cirrhosis of the liver					6	3	1										1				16	5	1		23
113. Biliary calculi					1	1															2	1			3
114. Other diseases of the liver					2	3											1		2		23	21			47
116. Simple peritonitis (nonpuerperal)					1													1	3		6	5			15
117. Other diseases of the digestive system (cancer and tuberculosis excepted)					1														1	1	2				4
118. Appendicitis and abscess of the iliac fossa					1												1				10	3	1		15
VI. Diseases of the genito-urinary system and its adnexa.																									
119. Acute nephritis					1	3														1	27	24			52
120. Bright's disease					19	28											1		1		47	51	4		104
121. Other diseases of the kidneys and their adnexa																					1	2			3
122. Calculi of the urinary tract					2																6	2			8
123. Diseases of the bladder																					2				2
124. Diseases of the urethra, urinary abscess, etc					1																1				1
125. Diseases of the prostate			1																1						1
126. Nonvenereal diseases of the male genital organs																					1				1

Number of deaths by nationality, sex, and age—Continued.

Causes of death.	From 50 upward.								Unknown.								Total.								Grand total.
	Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		Americans.		Foreigners.		Filipinos.		Chinese.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
IV. Diseases of the genito-urinary system and its adnexa—Continued.																									
127. Metritis																						1			1
128. Uterine hemorrhage (nonpuerperal)						1																6			6
129. Uterine tumor (noncancerous)																						1			1
131. Cysts and other tumors of the ovary						1																2			2
VII. The puerperal state.																									
134. Accidents of pregnancy																						10			10
135. Puerperal hemorrhage																				1		30			31
136. Other accidents of labor																						7			7
137. Puerperal septicæmia																				1		31			32
138. Puerperal albuminuria and convulsions																				1		7			8
140. Other puerperal accidents—sudden death																						2			2
VIII. Diseases of the skin and cellular tissue.																									
142. Gangrene																					4	2			6
143. Furuncle					1	2															4	2			6
144. Acute abscess, phlegmon																					4	2			6
145. Other diseases of the skin and its adnexa																					2	3			5
IX. Diseases of the organs of locomotion.																									
146. Nontuberculous diseases of the bones																					5	5			10
147. Arthritis and other diseases of the joints (tuberculosis and rheumatism excepted)																					1				1
X. Malformations.																									
150. Congenital malformations (stillbirths excepted)																	2				13	10			25

XI. Early infancy.																									
151. Congenital debility, icterus, and sclerema																	2	3	2	2	387	319	4	4	723
152. Other diseases peculiar to early infancy																					21	15			36
153. Lack of care																					13	7			20
XII. Old age.																									
154. Senile debility			1		76	139													1		76	139			216
XIII. External causes.																									
155. Suicide by poison																						1	1		2
157. Suicide by hanging or strangulation																					2				2
160. Suicide by cutting instruments	1																2				1				3
164. Fractures	1																2		1		13	3			19
166. Other accidental traumatisms					3	1															17	3	3		23
167. Burns and scalds						2								1					1		8	7	1		17
172. Accidental drowning													2		1				1		9	3	2		15
173. Inanition (starvation)																						1			1
175. Other acute poisonings																		1							1
176. Other external violence					1																19				19
XIV. Ill-defined diseases.																									
177. Dropsy			1																1						1
179. Causes of death unspecified or ill defined					1	2							2	1	2		2	1	1		68	56	3		131
Total	5	1	16	6	509	461	57	1					8	5	3		52	19	62	24	4,535	3,763	259	13	8,727
Grand total	6		22		970		58						13		3		71		86		8,298		272		8,727

Deaths, by occupations.

Occupation.	Number.	
	Male.	Female.
Professional:		
Architects, artists, teachers of art, etc	7	1
Clergymen, priests, nuns, etc	8	4
Engineers and surveyors	2	------
Journalists	------	------
Lawyers	3	------
Musicians and teachers of music	16	------
Nurses and midwives	1	2
Physicians and surgeons	7	------
Teachers (schools)	5	3
Others of this class	7	------
Clerical and official:		
Bookkeepers, clerks, and copyists	127	1
Bankers, brokers, and officials of companies	5	------
Collectors, auctioneers, and agents	9	------
Stenographers and typewriters	------	------
Telegraph and telephone operators	3	------
Others of this class	4	------
Mercantile and trading:		
Apothecaries, pharmacists, etc	13	------
Commercial travelers	8	------
Merchants and dealers	49	5
Hucksters and peddlers	5	2
Shopkeepers	18	63
Others of this class	1	------
Public entertainment:		
Hotel and boarding house keepers	2	------
Saloon keepers, liquor dealers, bartenders, and restaurant keepers	1	------
Personal service, police and military:		
Barbers and hairdressers	15	------
Janitors and sextons	18	1
Policemen, watchmen, and detectives	14	------
Soldiers, sailors, and marines	10	------
Others of this class	5	------
Laboring and servant:		
Laborers (not agricultural)	604	4
Launderers	21	139
Servants	57	39
Manufacturing and mechanical industry:		
Artificial-flower and paper-box makers	------	------
Bakers and confectioners	5	------
Manufacturing and mechanical industry—Continued.		
Blacksmiths	8	------
Boot, shoe, and slipper makers	11	------
Brewers, distillers, and rectifiers	1	------
Butchers	4	5
Cabinetmakers and upholsterers	------	------
Carpenters and joiners	79	------
Cigar makers and tobacco workers	31	86
Clock and watch repairers, jewelers, etc	19	1
Compositors, printers, etc	16	1
Coopers	------	------
Embroiderers (gold, silk, etc.)	------	11
Engineers and firemen (not locomotive)	38	------
Glass blowers and glass workers	------	------
Hat and cap makers	8	------
Iron and steel workers	2	------
Leather makers	2	------
Leather workers	2	------
Machinists	12	------
Marble and stone cutters	6	------
Masons (brick and stone)	8	------
Mill and factory operatives	1	1
Millers (flour and grist)	------	------
Milliners	------	------
Painters, glaziers, and varnishers	28	------
Plumbers, gas and steam fitters	1	------
Tailors, dressmakers, and seamsters	38	179
Tinners and tinware makers	7	------
Others of this class	41	3
Agriculture, transportation, and other outdoor:		
Boatmen and canalmen	20	------
Draymen, drivers, and teamsters	57	------
Farmers, planters, and farm laborers	64	2
Gardeners, florists, nurserymen, etc	1	------
Livery-stable keepers and hostlers	2	------
Lumbermen and raftsmen	1	------
Miners and quarrymen	7	------
Sailors, pilots, fishermen, and oystermen	110	5
Steam railroad employees	------	------
Stock raisers, herders, and drovers	------	1
Others of this class	2	------
All other occupations	97	33
Total	1,774	592
Grand total	2,366	

Baguio Hospital Division.

MEDICAL CASES.

Diagnosis.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Japanese.	Chinese.	Total.	Females.
Alcoholism	4						4	
Anemia	4						4	2
Asthma	1			1			2	2
Beriberi				1			1	
Bronchitis:								
Acute	1			8	1		10	1
Chronic				1			1	
Broncho-pneumonia, acute	1			4			5	1
Carcinoma of stomach				1			1	1
Cholecystitis, acute				1			1	
Cholera Asiatica	1						1	
Cirrhosis of liver, atrophic				1			1	
Colitis	1						1	
Constipation, acute	2			5			7	2
Convalescent from typhoid fever	1						1	1
Coryza	1			10	1		12	2
Croup, spasmodic	1						1	1
Debility, post-operative	1			1			2	2
Dengue fever	1			3			4	1
Dhobie itch	1						1	
Dysentery:								
Amœbic—								
Acute	4	1		22	2	1	30	1
Chronic	1						1	1
Catarrhal, acute	3	1		2	2		8	2
Empyemia				1			1	1
Enteritis, acute, catarrhal	9			18	1		28	4
Gastritis:								
Acute	3	1		12	3		19	3
Chronic	2						2	1
Gastro-enteritis, acute	2			3			5	1
Goitre, ex-ophthalmic, incipient	1						1	
Herpes facialis				1			1	
Lumbago				1			1	
Malaria:								
Estivo-autumnal	3			20	3		26	4
Pernicious				2			2	
Tertian	4			13	1		18	2
Mercurialism	1						1	
Myalgia				1			1	1
Nephritis:								
Acute, parenchymatous (uremic)				1			1	1
Chronic, fatty heart			1				1	
Neuralgia:								
Intercostal				1			1	
Supraorbital					1		1	
Neurasthenia	5						5	3
Neurosis, cardiac, alcoholic	1						1	
Orchitis, acute				1			1	
Parasites, intestinal:								
Ankylostoma				5			5	
Ascariasis				1	1		2	
Tinea solium				2			2	
Parotitis, acute				4			4	
Pharyngitis, chronic	1						1	
Phlebitis, femoral				1			1	
Pleurisy, acute, fibrinous				3			3	
Pneumonia, acute, lobar			1	10			11	1
Prostration, nervous	1						1	
Pyelonephritis, acute				1			1	1
Rheumatism:								
Articular—								
Acute				7			7	2
Chronic				1			1	
Muscular, acute				9			9	
Spondydilitis, acute				1			1	
Stomatitis, ulcerative				1			1	
Syphilis, secondary				1			1	1
Tabes dorsalis					1		1	
Tonsilitis, acute, follicular	2						2	1
Tuberculosis, pulmonary, acute	2	1		11			14	2
Typhoid fever					1		1	
Ulcer, gastric			1				1	
Under observation	2			3			5	3
Urticaria				1			1	
Vaccinia	2						2	
Varioloid				10			10	
Total medical cases	70	4	3	203	18	1	299	52

Baguio Hospital Division—Continued.

SURGICAL CASES.

Diagnosis.	Americans.	Europeans.	Filipinos.	Japanese.	Chinese.	Total.	Females.
Abrasion, hip and leg			1			1	
Abscess:							
Femoral glands			1			1	
Ischio-rectal		2				2	1
Liver (amæbic)		1				1	
Rectal	1					1	1
Thigh and leg	1					1	
Adenitis:							
Cervical, tuberculous			1			1	
Femoral, acute			1			1	1
Inguinal—							
Acute			1			1	
Acute, suppurative, gonnorrheal			1	1		2	
Adenoids, hypertrophy of (adenoidectomy)	3					3	2
Amputation, finger		1				1	
Anus, fissure of		1				1	
Appendicitis:							
Catarrhal, acute	2				1	3	
Suppurrative, acute				1		1	
Arthritis:							
Hip, traumatic	1					1	
Infectious, acute, ankle			1			1	
Blepharitis and conjunctivitis, acute	1					1	
Burns:							
Eyes, face, arm (powder)			1			1	
Face			1			1	
Legs and feet			1			1	
Neck and shoulder	1					1	1
Thigh and leg			1			1	
Carbuncle		1				1	1
Circumcision	8					8	
Concussion of brain			1			1	
Dacrocystitis, suppurative, acute			1			1	
Dislocation of shoulder			1			1	
Epididymitis, gonorrheal, acute			2			2	
Fistula in ano			1			1	
Fractures:							
Clavicle			1			1	
Colles'	1					1	1
Femur			1		1	2	
Femur (impacted, old)	1					1	1
Femur, humerus (compound), clavicle			1			1	
Fibula			1			1	
Finger (compound)	1					1	
Potts'		1				1	
Rib					1	1	
Skull				1		1	
Furuncle, face	1					1	
Hemorrhage (following extraction of tooth)			1			1	
Hemorrhoids:							
External	1			1		2	1
Internal	1	1	2			4	
Infections:							
Finger	1		1			2	
Foot			4			4	
Hand			2			2	
Toe			1			1	
Periostitis, acute, costal			1			1	
Peritonitis, acute, suppurative				1		1.	1
Sprain:							
Ankle	1		1	1		8	
Back			1			1	
Metatarsus			1			1	
Wrist			1			1	
Strain, ligaments, lumbar vertebræ			1			1	
Tonsils, hypertrophy of (tonsilectomy)	1					1	
Tonsils and adenoids, hypertrophy of (tonsilectomy						1	
and adenoidectomy)	1					1	
Varicocele and circumcision	1					1	
Varicose veins, leg			1			1	
Wounds:							
Contused—							
Back and hip			1			1	
Back	1					1	
Chest and ilium			1			1	
Chest and knee			1			1	
Chest and shoulder			1			1	
Cornea			1			1	
Face			1			1	
Foot			1			1	
Heel			1			1	

Baguio Hospital Division—Continued.

SURGICAL CASES—Continued.

Diagnosis.	Americans.	Europeans.	Filipinos.	Japanese.	Chinese.	Total.	Females.
Wounds—Continued.							
Contused—Continued.							
Knee			1			1	
Neck (pulmonary edema)			1			1	
Sacrum and ilium				1		1	
Sacrum and ankle				1		1	
Shoulder and hip			1			1	
Thigh and back				1		1	
Incised—							
Forehead			1			1	
Lip			1			1	
Scalp			2	1		3	
Infected—							
Arm (gunshot)			1			1	
Finger	1					1	
Foot	1		3			4	
Forehead			1			1	
Leg	1		2			3	
Thigh			1			1	
Lacerated—							
Ankle			1			1	
Finger and thumb (amputation of finger)			1			1	
Fingers and thumbs			1			1	
Foot			4			4	
Hand and wrist (amputation through forearm)			1			1	
Leg			1			1	
Scalp			2			2	
Punctured, foot			1			1	
Stab—							
Arm and chest	1					1	1
Chest	1					1	
Total surgical cases	30	8	74	10	8	125	11

OBSTETRICAL AND GYNECOLOGICAL CASES.

Diagnosis.	Americans.	Europeans.	Filipinos.	Japanese.	Total.
Abortion, accidental			2		2
Bartholinitis, suppurative, acute			1		1
Cyst, ovarian:					
Dermoid			1		1
Multilocular			1		1
Eclampsias (induction of labor)			1		1
Ectopic pregnancy			1		1
Menorrhagia			1		1
Parturition	5	2	1		8
Parturition (acute nephritis of pregnancy)			1		1
Pregnancy	2				2
Pregnancy, vomiting of	1				1
Prolapsus uteri			1		1
Relaxed vaginal endometritis, chronic (perineorraphy and curettage)			1		1
Vaginitis, gonorrheal:					
Acute			9	1	10
Chronic			2	9	11
Total cases	8	2	23	10	43

OUTDOOR DEPARTMENT.

Diagnosis.	Number of cases.	Diagnosis.	Number of cases.
Aberration, mental, traumatic	2	Abrasions—Continued.	
Abrasions:		Heel	2
Back	1	Hip	1
Buttocks	1	Knee	1
Chest	1	Leg	7
Face	2	Neck	2
Foot	4	Thigh	1
Hand	3	Toe	1

Baguio Hospital Division—Continued.

OUTDOOR DEPARTMENT—Continued.

Diagnosis.	Number of cases.
Abscesses:	
Alveolar	2
Arm	3
Axillary	5
Buttock	8
Foot	1
Hand	2
Ischio-rectal	5
Leg	1
Lip	1
Meibomian gland	1
Neck	4
Perineal	3
Psoas	1
Scrotum	8
Submaxillary	1
Supra-orbital	1
Wrist	1
Acne vulgaris	15
Adenitis:	
Axillary	1
Cervical	3
Tuberculous	8
Tuberculous, femoral	2
Inguinal—	
Simple	7
Suppurative, acute gonorrheal	1
Sublingual	2
Submaxillary	1
Alcoholism, acute	6
Alopecia	2
Anemia	18
Anorexia	2
Anus, fissure of	2
Appendicitis, chronic	1
Arteriosclerosis	2
Asthenia	11
Asthma	20
Beriberi	2
Bite (insect)	1
Blepharitis—	
Acute	1
Chronic	2
Bronchitis:	
Acute	323
Chronic	2
Burns:	
Ankle and face	1
Arm	1
Back	1
Face	1
Fingers	2
Hand	6
Leg	6
Carbuncle	1
Cephalagia	24
Chancroid	6
Circumcision	4
Clavus	3
Conjuctivitis:	
Acute	59
Chronic	6
Follicular, acute	3
Constipation:	
Acute	338
Chronic	65
Contusions:	
Ankle	2
Arm	3
Backs	6
Chest	2
Foot	3
Hand	3
Knee	3
Leg	3
Lumbar region	1
Neck	1
Shoulder	1
Spine	1
Toe	1
Coryza	151
Cyst, sebaceous	5
Cystitis:	
Acute	20
Chronic	1
Dacrocystitis, acute, suppurative	1
Dengue fever	5
Dental caries	28
Dentition, difficult	1
Dermatitis, undetermined	59
Dhobie itch	21
Diarrhea, acute	281
Diarrhea:	
Chronic	1
Tuberculous	1
Dislocation, costal cartilage	1
Drug habitue	1
Dysentery, amebic	22
Dysmenorrhea	6
Eczema:	
Acute	22
Chronic	16
Entero-colitis, acute	1
Enuresis	3
Epididymitis, gonorrheal	4
Epilepsy	1
Erysipelas	1
Ethmoiditis, acute	2
Fistula in ano	1
Foreign body in eye (removed)	7
Fractures:	
Clavicle	2
Finger	2
Metacarpal bone	2
Nose	1
Rib	1
Furunculosis	42
Gastric hyperacidity	7
Gastric neurosis	7
Gastritis:	
Acute	132
Chronic	27
Gastro-enteritis:	
Acute	9
Chronic	1
Goitre, ex-ophthalmic, incipient	5
Hematoma	1
Hemorrhoids:	
External	9
Internal	4
Hernia, inguinal	1
Herpes:	
Cervical	2
Facialis	1
Labialis	2
Zoster	4
Hordeolum	10
Impetigo contagiosa	2
Impacted cerumen	9
Impotence	2
Indigestion, intestinal:	
Acute	9
Chronic	2
Infection:	
Ear	1
Finger	14
Foot	10
Hand	11
Heel	2
Nose	2
Thumb	11
Toe	10
Insomnia	11
Intertrigo	8
Laryngitis:	
Acute	35
Chronic	3
Tuberculous	1
Liver, congestion of	1
Lumbago	35

Baguio Hospital Division—Continued.

OUTDOOR DEPARTMENT—Continued.

Diagnosis.	Number of cases.
Malaria	144
Malnutrition	1
Masturbation	1
Menorrhagia	1
Metatarsalgia	1
Milaria	1
Myalgia	70
Myocarditis	2
Nephritis	2
Neuralgia:	
Intercostal	7
Supraorbital	1
Trifacial	5
Neurasthenia	17
Neuritis, acute	1
Neurosis, cardiac, alcoholic	7
Nostalgia	1
Nyctalopia	1
Occlusion of Wharton's duct	2
Orchitis, acute	1
Osteomyelitis:	
Arm	1
Jaw	1
Otitis media:	
Acute, suppurative	7
Chronic, suppurative	1
Parasites, intestinal:	
Ankylostomiasis	12
Ascariasis	70
Tenia solium	2
Paronychia	1
Parotitis, acute	9
Parturition	1
Pectoralgia	3
Pediculosis:	
Capitis	1
Pubis	8
Pemphigus contagiosa	3
Periostitis, acute	3
Pertussis	2
Pes planus	1
Pharyngitis:	
Acute	32
Chronic	2
Phlebitis	1
Pleurisy, acute	14
Potts' disease	1
Pregnancy	5
Pterygium	2
Pyorhea alveolaris	1
Retina, detachment of	1
Rheumatism:	
Articular—	
Acute	33
Chronic	4
Muscular, acute	57
Rhinitis:	
Acute	14
Atrophic	2
Hypertrophic	3
Scabies	79
Sciatica, rheumatic	1
Sinus, appendiceal	1
Sprains:	
Ankle	8
Back	3
Knee	1
Tendo Achilles	1
Thigh	1
Thumb	2
Toe	1
Wrist	8
Singultis	1
Stomatitis:	
Mercurial	4
Parasitic, acute	24
Strain; tendo Achilles	1
Synovitis, acute, knee	1
Syphilis:	
Primary	2
Syphilis—Continued.	
Secondary	19
Tertiary	2
Teeth extracted (cases)	108
Thrush	4
Tinea circinata	9
Tinea sycosis	1
Tinea imbricata	7
Tonsilitis:	
Acute	2
Chronic	2
Tuberculosis:	
Kidney	1
Pulmonary	68
Ulcer:	
Cornea	4
Gastric	2
Urethritis:	
Acute—	
Anterior, gonorrheal	20
Posterior, gonorrheal	4
Chronic, posterior, gonorrheal	14
Urticaria	8
Vaginitis, chronic, gonorrheal	1
Varicose veins, leg	8
Verucca, removal of	4
Vertigo	4
Wounds:	
Contused—	
Arm	2
Back	2
Chest	1
Finger	2
Foot	4
Hand	2
Hip	2
Knee	1
Leg	1
Scalp	1
Shoulder	1
Incised—	
Arm	8
Back	1
Face	4
Finger	10
Foot	15
Forehead	7
Hand	10
Heel	1
Knee	2
Leg	2
Lip	4
Nose	1
Scalp	5
Shoulder	2
Thumb	2
Toe	8
Tongue	1
Infected—	
Abdomen	1
Ankle	2
Arm	6
Buttocks	1
Chin	1
Face	2
Finger	18
Foot	29
Forehead	2
Hand	18
Heel	2
Knee	1
Leg	16
Lumbar region	1
Neck	1
Thumb	1
Toe	14
Lacerated—	
Ankle	1
Ear	1

Baguio Hospital Division—Continued.

OUTDOOR DEPARTMENT—Continued.

Diagnosis.	Number of cases.	Diagnosis.	Number of cases.
Wounds—Continued.		Wounds—Continued.	
Lacerated—Continued.		Punctured—	
Finger	24	Check	1
Foot	17	Cornea	1
Hand	8	Finger	1
Knee	1	Foot	17
Leg	11	Hand	3
Lip	1	Head	1
Neck	1	Heel	1
Scalp	6	Leg	2
Scrotum	1	Thumb	1
Thigh	1		
Thumb	1	Total number of outdoor department cases	3,460
Toe	8		

Specimens examined at hospital laboratory, fiscal year 1910.

Examination.	Americans.	Europeans.	Afro-Americans.	Filipinos.	Japanese.	Chinese.	Total.
Blood	18			67	12		97
Fæces	108			392	19	1	520
Pus	6	1		46	204		257
Sputum	13	1		29	1		44
Stomach contents	1						1
Urine	48	1	1	37	5	1	93
Total	194	3	1	571	241	2	1,012

Results of examination of fæces of natives at the hospital laboratory.

Parasites found.	Igorots.	Filipinos.	Total.
Amœbæ	3	20	23
Ankylostoma duodenale	37	21	58
Ascaris, lumbricoides	42	33	75
Flagellates	1	3	4
Oxyuris vermicularis	4	0	4
Tenia saginata	3	2	5
Tenia solium	1	1	2
Tricocephalus hominis	33	34	67
Number of cases in which two or more parasites were found	31	28	59
Number of negative cases	53	66	119
Total number of cases examined	138	140	278

Average cost of subsistence per person, per day, including patients, employees, etc., of the Baguio Hospital division.

1909—July	₱0.683
August	.71
September	.70
October	.515
November	.544
Dcember	.60
1910—January	.677
February	.541
March	.647
April	.772
May	.652
June	.62
Average cost per person for fiscal year 1910	0.638

Bilibid Prison report of sick.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Abscess	6	116			112	10
Abscess, ischio-rectal	1	4	1		4	
Acne vulgaris		1			1	
Adenitis	2	5			6	1
Amebiasis		13			12	1
Anemia	2	12			13	1
Ankylostomiasis	1	440			435	6
Aortic stenosis		1	1			
Arthritis, purulent	2	4			5	1
Asthma	8	12			18	2
Auto-intoxication		5			5	
Balanitis		2			2	
Beriberi		25			21	4
Blepharitis marginalis		1			1	
Bronchitis:						
Acute	15	116			126	5
Chronic	21	174			187	8
Bubo		3			3	
Bunions		1			1	
Burns		4			4	
Callosity		6			6	
Carbuncle	1	7			7	1
Carcinoma:						
Of liver	1					1
Of rectum		1				1
Cataract	1	1			1	1
Cellulitis		1			1	
Cerebral hemorrhage		1			1	
Chalazion		1			1	
Chancroids		15			14	1
Cholecystitis		1			1	
Cicatricial contracture	1				1	
Circumcision		3			3	
Cirrhosis of liver	1	1			2	
Colic, intestinal		10			10	
Colitis	3	85	1		87	
Condyloma		1			1	
Congestion, pulmonary		17			17	
Conjunctivitis	4	31			35	
Constipation	4	141			141	4
Contusions		11			11	
Cyst, dermoid		1				1
Cystitis, chronic		1			1	
Dengue		4			4	
Dermatitis		1			1	
Diarrhea	7	43			49	1
Dilatation of heart, acute		1	1			
Dislocation of thigh		2			2	
Dhobie itch		1			1	
Dysentery:						
Acute	1	14			15	
Amebic	1	26	1		26	
Chronic	1	3	1		3	
Dyspepsia	5	67			72	
Eczemata		4			4	
Edemata		6			6	
Elephantiasis		2			1	1
Endocarditis		1			1	
Enteritis		1			1	
Enteritis, tuberculous		2	1		1	
Entero-colitis		5	2		3	
Epilepsy		4			4	
Exostosis of humerus		1			1	
Fibromata		8			8	
Fistula:						
Anal	10	85			92	3
Tubercular		1			1	
Urethral		1			1	
Fracture:						
Of femur		1				1
Of fibula		1			1	
Of toe		1			1	
Pott's		1			1	
Furunculosis		20			20	
Gangrene of lungs		1	1			
Gastralgia		4			3	1
Gastritis, acute		1			1	

Bilibid Prison report of sick—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Gastro-enteritis, acute		1	1			
Glaucoma		1			1	
Glossitis, chronic		1			1	
Gonorrhea		11			11	
General debility		1			1	
Granuloma, fungoides		1			1	
Hallux valgus		1			1	
Helminthiasis		829			816	13
Hematoma		1				1
Hemiplegia		1				1
Hemoptysis	1	5			6	
Hemorrhoids	4	49			48	5
Hepatic:						
Cirrhosis		1			1	
Colic		6			5	1
Hepatitis		1			1	
Hernia:						
Inguinal	5	25			27	3
Strangulated		1			1	
Herpes simplex		3			2	1
Hordeolum		2			2	
Hydrocele		27			25	2
Hysteria		7			6	1
Indigestion		3			2	1
Infection:						
Of foot		2			2	
Of hand		1			1	
Influenza		1			1	
Ingrowing toe nail		2			2	
Insanity		8			7	1
Iritis		1			1	
Jaundice	1	1			2	
Keratitis		1			1	
Laryngitis, acute	1	10			11	
Leprosy		3			3	
Lipomata		5			4	1
Locomotor ataxia		1			1	
Lumbago		3			3	
Lymphadenitis, chronic		1				1
Malaise		2			2	
Malarial fever	5	87			89	3
Malta fever		1			1	
Mastitis		1			1	
Melancholia		1			1	
Meniere's disease		1			1	
Meningitis, purulent		1	1			
Migraine		7			7	
Mitral:						
Insufficiency	2	7			9	
Regurgitation		2			1	1
Morphinism	2	190			176	16
Myocarditis		3			2	1
Myositis		2			2	
Necrosis		1			1	
Nephritic colic		1			1	
Nephritis:						
Acute		2			2	
Chronic	1	2			3	
Neuralgia		3			3	
Neurasthenia		3			3	
Opiumism	2	180			165	17
Opthalmia		3			3	
Orchitis	1	13			14	
Orchitis, tubercular		3			3	
Osteomyelitis	1	1			2	
Osteoperiostitis		1			1	
Otitis		3			3	
Palpebral cellulitis		2			2	
Panophthalmia		2			2	
Paragonomiasis		1				1
Paraplegia	4	10			12	2
Paralysis		2			2	
Parturition		5			5	
Pemphigus		2			2	
Pericarditis:						
Chronic		3	2		1	
Tuberculous		1	1			
Parotitis		3			3	
Peritonitis	2	1			3	
Paronychia		1			1	
Pharyngitis, acute		2			2	

Bilibid Prison report of sick—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Transferred.	Discharged.	Remaining.
Phimosis		1			1	
Phthisis bulbi		2			2	
Pleurisy		8			5	3
Pleurodynia		1			1	
Pneumonia:						
Acute		10	4		6	
Broncho	1	4	2		2	1
Lobar		12	1		9	2
Proctitis		8			8	
Prolapse, rectal		3			3	
Pterygium		1			1	
Pulmonary congestion	1	3			4	
Pyorrhea, alveolar		1			1	
Rectocele		1			1	
Rheumatism	4	20			22	2
Rhinitis, chronic		2			2	
Scalds		1			1	
Sciatica		2			2	
Sebaceous cyst		8			8	
Senility	3	6			7	2
Spastic paraplegia	2	1			3	
Splenomegalia		1			1	
Sprain		5			5	
Staphyloma	1	1			1	1
Stricture, urethral		1			1	
Swelling of foot		1			1	
Syphilis	2	24			21	5
Syphilitic gummata of liver		1	1			
Tachycardia		4			4	
Tinea imbricata		3			3	
Thyroidectomy, carcinoma of thyroid gland		1			1	
Trachoma	1	4			5	
Troubles of pregnancy		4			3	1
Tuberculosis:						
General		8	8			
Miliary		7	7			
Of peritoneum	1				1	
Pulmonary	124	228	83		117	152
Tumor		1			1	
Tumor, fibroid		1			1	
Typhoid fever		3	2		1	
Ulcers	7	66			71	2
Urethral stricture		2			2	
Urine, retention of		1			1	
Urticaria		4			4	
Vaccinia		1			1	
Varicella		24			22	2
Varioloid		86			86	
Verrucosa cutis		1			1	
Wounds	1	104			105	
Yaws	1	1			1	1
Total	275	3,730	128		3,579	308

Mortality of prisoners, excluding Iwahig.

	Inside.	Outside.
Average number of prisoners	2,696	1,819
Number of deaths	117	6
Annual death rate per thousand	43.39	3.29
Population inside and outside		4,515
Number of deaths		123
Annual death rate per thousand		27.24

Iwahig penal colony, sick report.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining.
Abscess		12		12	
Abscess, acute, phlegmonous		2		2	
Abscess of the ear		2		2	
Adenitis:					
Axillary		1			1
Cervical		2		2	
Inguinal		6		6	
Anemia		3		3	
Angiocolitis		1		1	
Ankylostoma duodenalis		2		2	
Anthrax		5		3	2
Arthritis		1		1	
Arthritis, traumatic		1		1	
Biliary lithiasis		1		1	
Bites of poisonous animals		2		2	
Bronchitis:					
Acute		3		3	
Chronic		1			1
Chronic muscular atrophy		1			1
Conjunctivitis	1	6		7	
Conjunctivitis, granular		2		2	
Constipation		1		1	
Contusions		38		38	
Corneal ulcers		2		2	
Dermatitis		[a]1			
Diarrhea		13		13	
Diarrhea and enteritis		7		7	
Disease of the ear		1		1	
Dysentery:					
Acute		2		2	
Amebic		7	1	5	1
Eczema		1		1	
Enteritis		8		8	
Entero-colitis		1	1		
Epilepsy	1	1		2	
Erysipelas		2		1	1
Fistula:					
Anal		3		3	
Salivary, submaxillary gland		1		1	
Fracture:					
Of clavicle		1		1	
Of ulna		1		1	
Furuncle		3		2	1
Gastritis, acute		15		14	1
Gastro-enteritis		8		8	
Gingivitis		2		2	
Hemorrhoids		3		3	
Hepatitis, acute		1		1	
Herpes	1	7		7	1
Hypertrophic cirrhosis of liver		1			1
Hydrocele	1			1	
Keratitis		2		2	
Keratosis, palms and soles	1	2		3	
Laryngitis:					
Acute		3		2	1
Tuberculous		1		1	
Laryngo-bronchitis		2		2	
Laryngo-pharyngitis		1		1	
Lithiasis, intestinal		1		1	
Malaria	4	773		767	10
Mental alienation		1		1	
Myelitis		1		1	
Nephritis, acute		1		1	
Occlusion intestinal		1		1	
Orchitis		4		3	1
Organic disease of the heart		2		2	
Oxyuris vermicularis		3		3	
Palpitation of heart		1		1	
Papilloma		1		1	
Paragonomiasis		2		1	1
Paralysis, general		1		1	
Parotiditis		1		1	
Pericarditis		1		1	
Periostitis, alveo-dental		1		1	
Pharyngitis		1		1	
Pleurisy		4		4	
Pleuro-pulmonary congestion		2		2	
Pneumonia		1		1	

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[a] Diagnosed leprosy and transferred to Culion.

Iwahig penal colony, sick report—Continued.

Diseases.	Remaining at last report.	Admitted.	Died.	Discharged.	Remaining
Pulmonary congestion		1		1	
Rheumatism		47		46	1
Stomatitis, acute		1		1	
Synovitis		2		2	
Syphilis		2		1	1
Tenia solium		2		2	
Trichocephalus dispar		3		3	
Tuberculosis:					
Intestinal	1			1	
Pulmonary	4	42	13	18	15
Ulcer:					
Of the skin		21		18	3
Of the mouth		1		1	
Uncinariasis		6		6	
Under observation		[a]103		102	1
Urticaria		1		1	
Varices		1		1	
Wounds from various weapons		82		76	6
Total	14	1,314	15	1,261	50

[a] One diagnosed malaria.

Free treatment of poor at Mariveles (medicines furnished by the Bureau of Health).

Diseases.	Number.	Diseases.	Number.
Abortion	2	Inflammation of breast	1
Abscess	5	Inflammation of colon	1
Abscess, liver	4	Injury of chest	1
Amblyopia	1	Itch, dhobie	5
Ascaris lumbricoides	118	Lumbago	2
Asthma	5	Malaria	118
Beriberi	3	Nephritis	1
Boils	2	Neuralgia	4
Bronchitis, acute	35	Ophthalmia neonatorum	2
Burns	1	Otitis	1
Carcinoma	1	Paralysis	1
Caries, bone	1	Pertussis	1
Cellulitis	14	Pharyngitis	1
Conjunctivitis	5	Pneumonia	2
Constipation	4	Rheumatism	3
Cyst, hand	1	Senility	1
Diarrhea	6	Stricture, urethral	1
Dengue	4	Sprain	1
Dysmenorrhea	1	Tuberculosis: Glands	4
Dysentery	1	Intestinal	1
Dysentery, amebic	7	Lungs	16
Eczemata	4	Toothache	1
Enteralgia	4	Tooth extraction	9
Enterocolitis	2	Ulcer	11
Foreign body in eye	2	Uncinariasis	6
Gingivitis	1	Vaccination, inflamed	2
Hare lip	1	Wounds	18
Hemorrhage	1		
Hernia	2	Total	456
Impetigo contagiosa	3		

MISCELLANEOUS.

Cases	456
Visits	851
Microscopical examinations.	
Blood	118
Feces	57
Sputum	82

Bilibid Prison, report of deaths.

Diseases.	Presidio.			Carcel.				Total.	Condition.			Cemetery Norte.
	Filipinos.				Filipinos.							
	Male.	Female.	Chinese, male.	Americans, male.	Male.	Female.	Chinese, male.		Married.	Single.	Widowed.	
Typhoid fever (abdominal typhus)	2							2		2		2
Dysentery	2							2	2			2
Tuberculosis of the lungs	78		1		7	2	1	89	46	34	9	89
Tuberculosis of the meninges							1	1		1		1
Abdominal tuberculosis	1							1	1			1
Tuberculosis of other organs	1							1		1		1
General tuberculosis	9							9	2	7		9
Syphilis	1							1	1			1
Pericarditis	1							1	1			1
Organic diseases of the heart	3							3	3			3
Broncho-pneumonia	1				1	1		3	2	1		3
Pneumonia	3			1				4	2	2		4
Gangrene of the lungs						1		1			1	1
Diarrhea and enteritis (2 years and over)	3					1		4	3	1		4
Other diseases of the intestines	1							1		1		1
Suicide by hanging or strangulation	1							1		1		1
Fractures	1							1		1		1
Other external violence					19			19	13	2	4	19
Total	108		1	1	27	5	2	144	76	54	14	144

Died in Bilibid hospital, 123; legally executed, 19; suicides, 1; died in San Lazaro Hospital, 1.

Report of San Lazaro Hospitals, insane and leper departments.

INSANE DEPARTMENT.

Status.	Americans.		Europeans.		Filipinos.		Chinese.	Others.	Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Male.	
In hospital at last report	2		2		113	16	2	1	136
Admitted	9	1	4	1	55	13	1	4	88
Discharged	7		4	1	17	2		1	32
Transferred									
Escaped						1			1
Died	2		1		13	2		1	19
Remaining	2	1	1		138	24	3	3	172

LEPER DEPARTMENT.

Status.	Americans.	Filipinos.		Chinese.	Others.	Total.
	Male.	Male.	Female.	Male.	Male.	
In hospital at last report		97	53	5	1	156
Admitted	1	224	104	16	1	346
Discharged		14	11	15	2	42
Discharged, not leprosy		14	10	1		25
Transferred		146	73	5		224
Escaped		8				8
Died		23	14			37
Remaining	1	116	49			166

Chinese hospital sick report.

[Dr. Tee Han Kee, physician in charge.]

Status.	Number.		Total.
	Male.	Female.	
In hospital at last report	21	------	21
Received	208	------	208
Discharged	122	------	122
Transferred	------	------	------
Died	88	------	88
Remaining in hospital	19	------	19

Report of prescriptions filled at the municipal dispensary.

Health districts.	Americans.				Foreigners adults, male.	Filipinos.				Chinese.		Total.
	Adults.		Children.			Adults.		Children.		Adults, male.	Children, male.	
	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.			
No. 1, Intramuros	1,796	1,078	1	6	104	4,676	3,712	1,157	1,020	17	1	13,568
No. 2, Meisic	27	------	------	------	2	1,007	796	396	302	7	------	2,537
No. 4, Sampaloc	2	------	------	------	------	1,978	1,229	1,197	649	------	------	5,055
No. 5, Tondo	1	------	------	------	1	1,075	891	318	284	------	------	2,570
No. 6, Paco	61	4	------	------	------	481	318	349	329	------	------	1,542
Total	1,887	1,082	1	6	107	9,217	6,946	3,417	2,584	24	1	25,272

Number of prescriptions filled during the fiscal year 1909–10 at the Philippine Medical School free clinic.

Date.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
1	64	------	85	92	47	95	------	107	68	113	------	128	794
2	66	111	65	86	------	51	------	103	101	56	------	103	742
3	84	67	60	------	110	57	174	69	79	------	119	134	953
4	------	77	73	101	54	100	68	109	89	89	122	82	964
5	------	52	------	76	93	------	123	89	60	97	103	------	693
6	94	80	83	89	85	113	74	------	------	104	106	160	988
7	62	58	68	58	------	82	85	154	131	87	111	96	992
8	80	------	46	84	99	58	63	69	62	116	------	108	785
9	72	109	39	71	56	61	------	88	91	72	135	184	928
10	76	73	83	------	110	89	134	71	86	------	76	128	926
11	------	81	67	102	62	79	77	78	115	123	97	106	987
12	85	60	------	56	138	------	107	74	56	107	86	------	769
13	43	------	104	80	82	106	87	------	------	142	125	158	922
14	65	94	53	62	------	82	124	144	164	96	83	94	1,061
15	82	------	87	110	90	87	86	62	98	118	------	102	922
16	68	109	48	69	74	68	------	107	121	56	49	84	853
17	79	84	41	------	117	92	121	82	81	------	84	124	905
18	------	67	39	77	79	68	107	90	97	129	119	74	946
19	83	47	------	74	107	------	102	72	76	82	100	------	743
20	75	68	47	76	77	108	66	------	------	121	114	164	916
21	102	86	63	63	------	67	99	158	145	80	82	127	1,072
22	81	------	85	104	105	91	70	------	56	108	------	112	812
23	90	127	62	68	100	54	------	112	132	85	158	127	1,115
24	102	76	76	------	------	------	119	100	------	------	92	92	657
25	------	87	66	99	------	------	104	111	------	59	82	95	703
26	82	55	------	68	150	------	114	68	------	107	55	------	699
27	40	77	100	113	97	147	70	------	------	136	74	153	1,007
28	39	83	58	70	------	103	105	122	184	86	75	97	972
29	35	------	82	88	124	92	107	------	106	142	------	124	900
30	40	126	80	79	82	------	------	------	108	94	------	100	709
31	71	83	------	15	------	------	125	------	73	------	137	------	504
Total	1,860	2,037	1,760	2,130	2,138	1,950	2,511	2,239	2,329	2,605	2,384	2,996	26,989

Report of sick and wounded poor attended by municipal physicians.

Health districts and physicians.	Americans, adults.	Foreigners.		Filipinos.			
		Adults.		Adults.		Children.	
	Male.	Male.	Female.	Male.	Female.	Male.	Female.
No. 1, Intramuros, Dr. V. Cavanna	7	62	5	1,255	1,244	446	405
No. 2, Meisic, Drs. F. Herrera and C. Reyes	21	1		416	246	165	157
No. 4, Sampaloc, Dr. F. Castañeda				548	945	671	593
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel			1	625	439	271	229
No. 6, Paco, Dr. J. B. Cabarrus				339	298	165	172
Dr. Tee Han Kee	2			43	26	9	5
Total	30	63	6	3,226	3,198	1,727	1,561

Health districts and physicians.	Chinese.			Total.	Cured.		Deaths.		Number of visits.
	Adults.	Children.							
	Male.	Male.	Female.		Male.	Female.	Male.	Female.	
No. 1, Intramuros, Dr. V. Cavanna	3			3,427	857	809	32	26	9,293
No. 2, Meisic, Drs. F. Herrera and C. Reyes	48			1,054	520	298	14	14	4,461
No. 4, Sampaloc, Dr. F. Castañeda				2,757	200	246	102	79	3,468
No. 5, Tondo, Drs. V. Pantoja and P. Gabriel	16			1,581	381	260	31	26	3,568
No. 6, Paco, Dr. J. B. Cabarrus	1			975	261	241	28	19	2,250
Dr. Tee Han Kee	352	8	1	446	267	21	9		2,007
Total	420	8	1	10,240	2,486	1,875	216	164	25,047

San Lazaro Morgue report.

Disposition.	Number of bodies.	Disposition.	Number of bodies.
Remaining from last year	0	Dropped:	
Received:		Buried by Bureau of Prisons	1
Beriberi	77	Buried by city	402
Cholera	300	Buried by family	242
Cholera, suspected	2	Cremated	23
Diphtheria	4	Remaining after the year	1
Glanders	2		
Insane	3	Total	669
Leprosy	36		
Leprosy, suspected	1		
Stillborn	3		
Tetanus	3		
Typhoid fever	2		
Violence	1		
Other diseases	235		
Total	669		

Number of autopsies held, 463.

Report of Malecon Morgue.

Disposition.	Number of bodies.	Disposition.	Number of bodies.
Remaining from last year	13	Transferred to Fort McKinley	1
Received	480	Transferred to provinces	3
		Transferred to San Lazaro Morgue	5
Total	493	Remaining after the year	21
Buried by city	403	Total	493
Buried by family	60		

Disposition of dead bodies.

Disposition.	Number.	Disposition.	Number.
Buried:		Buried continued:	
Norte cemetery	5,543	Santa Ana cemetery	185
Paco cemetery	281	Chinese cemetery	292
Santa Cruz cemetery	110	San Pedro Macati (English)	6
Binondo cemetery	310	Otherwise disposed of:	
Balicbalic cemetery	1,167	Embalmed for shipment	11
Maytubig cemetery:		Transferred to provinces	64
San Marcelino	167	Cremated	28
Ermita	228	Preserved in alcohol	2
San Fernando de Dilao	46	Remaining in Santo Tomas University	4
Malate cemetery	388	Remaining in Malecon Morgue	21
Pandacan cemetery, Roman Catholic	73		
Pandacan cemetery, Filipino Church	204	Total	[a]9,125

[a] Of this total 13 are from the Malecon Morgue remaining from last year; 21 dead bodies brought from the provinces; 1 remains unearthed, and 363 fœtuses.

Disinterments.

Cemeteries.	Number.	Cemeteries.	Number.
Paco	108	Balicbalic	29
Norte	6	Chinese	61
Loma	6	San Fernando de Dilao	1
Tondo	1	Quiapo church	1
Santa Cruz	33		
Binondo	21	Total	285
Malate	18		

General inspection of houses, premises, vaults, etc., with improvements ordered, whitewashed, cleaned, etc., by medical inspectors, sanitary inspectors, and assistant sanitary inspectors.

1. Inspections of houses by sanitary inspectors	84,477
2. Reinspections of houses for verification of work ordered	6,494
3. Inspections of houses by assistant sanitary inspectors and sanitary policemen	1,288,164
4. Reinspections of houses by assistant sanitary inspectors and sanitary policemen	262,302
5. Houses ordered cleaned (written)	71
6. Houses ordered cleaned (verbal)	162,408
7. Houses cleaned	161,088
8. Houses ordered whitewashed and painted	322
9. Houses whitewashed and painted	208
11. Number of houses recommended, condemned, and removed	21
12. Number of houses condemned and removed	0
13. Number of localities where "squatters" are located	0
14. Number of samples of water, foods, etc., sent to laboratory	2,726
15. Number of reports for same	2,493
16. Number of fire plugs opened or closed for sanitary purposes	0
17. Number of hydrants recommended reopened	0
18. Number of houses where garbage has not been removed for two days	590
19. Number of persons reported sick to municipal physicians	11,591
20. Cesspools and vaults ordered cleaned	146
21. Cesspools cleaned	92
22. Yards ordered cleaned	117,221
23. Yards cleaned	117,221
24. Yards ordered repaired (repaved, etc.)	17
25. Yards repaired	5
26. Number of cholera cases reported by sanitary inspectors	158
27. Number of cholera cases found alive	271
28. Number of cholera cases found dead	287
29. Number of orders issued during the year	720
30. Number of orders complied with during the year	500
31. Number of orders awaiting action	55
32. Number of orders pending in court	41
33. Average number of food tiendas in the districts	8,500
34. Number of persons convicted for violation of food prohibition orders	128
35. Average number of regular inspectors on duty	83
36. Average number of regular emergency inspectors on duty	85
37. Number of leprosy cases sent to San Lazaro Hospital	174
38. Number of plague cases reported	0
39. Number of smallpox cases reported (varioloid included)	152

40. Average number of houses in which traps were set	**499**
41. Average number of houses in which bane was placed	**0**
42. Average number of traps set	**640**
43. Average number of plates with rat bane placed	**0**
44. Rats caught by rat catchers	**11**
45. Rats caught by traps	**448**
46. Rats caught by poison	**45**
47. Rats found dead	**4**
48. Average number of rat catchers employed	**0**
49. Number of persons vaccinated during the year	**12,674**

Report of disinfections.

Causes for disinfections.	Number of disinfections.	Number of contacts.	Causes for disinfections.	Number of disinfections.	Number of contacts.
Actinomycosis	1		Meningitis, tuberculous	1	3
Anthrax	1		Mosquito larvae	8	
Beriberi	92	57	Mosquitoes	7	
Cholera	299	2,926	Pemphigus (?)	1	
Chronic nephritis	1	4	Pulmonary tuberculosis	316	19
Colibacilosis	1		Rinderpest	1	
Convulsions of children	7	52	Scarlet fever	1	
Diarrhea and enteritis	1		Simple meningitis	4	36
Diarrhea and enteritis, chronic	1		Smallpox	18	221
Diphtheria	19	108	Sub-acute enteritis	1	
Diphtheria amygdalitis	1	2	Surra (?)	2	
Dysentery	26	8	Suspected cholera	161	1,377
Dysentery, acute	8	2	Suspected diphtheria	3	14
Endocarditis, acute	1		Suspected leprosy	14	41
Enteritis	5	18	Suspected smallpox	3	9
Enteritis, acute	1	2	Suspected varioloid	1	4
Enteritis, chronic	11	28	Syphilis	1	
Entero-colitis, acute	1	3	Tetanus	8	18
Exhumations	278		Tuberculosis of the larynx	1	
Foot and mouth disease	12		Typhoid fever	38	155
Gastro-enteritis	3	16	Undetermined	4	10
Gastro-enteritis, acute	6	49	Unknown	756	10
Gastro-enteritis, chronic	2		Vaccinia	1	4
Glanders	2		Varicella (?)	54	441
Insanitary conditions	10,882	649	Varioloid	58	353
Intermittent fever	1		Vermin	1	
Leprosy	100	867	Whooping cough	8	
Measles	1	1			
Meningitis	8	88	Total	13,234	7,080

Report of cremations at Palomar Crematory.

Disposition.	Number.	Disposition.	Cart loads.
Animals cremated:		Refuse cremated:	
American horses	1	Condemned goods	363
American mules	2	Garbage	56
Bulls	5	Market refuse	671
Calves	1	Organic matter	595
Carabaos	12	Rubbish	494
Cats	1,155	Slaughtered in matadero	2
Cows	25	Slops	2,041
Deer	1	Trade refuse	1,697
Dogs	590		
Domestic birds	3	Total	5,919
Fowls	5,777		
Goats	67		
Hogs	1,070		
Monkeys	2		
Native ponies	27		
Rats	435		
Sheep	6		
Total	9,179		

Report of operations of the pail-conservancy system.

Where cleaned.	Pail collections.				Cleaned by odorless excavators.		
	Number of installations.	Number of installations in use.	Pails in use.	Pails cleaned.	Vaults cleaned.	Loads removed.	Gallons removed.
Private houses	4,919	1,970	2,469	825,966	2,186	3,107	1,553,500
Public buildings	135	52	308	74,291	124	1,286	643,000
Midden sheds	148	134	1,770	619,066			
Military buildings	30	5	26	9,843	6	38	28,000
Total	5,232	2,161	4,573	1,529,166	2,316	4,431	2,224,500

Report of action taken on application for licenses.

Kind of license applied for.	Approved.	Disapproved.	Total acted upon.	Kind of license applied for.	Approved.	Disapproved.	Total acted upon.
Liquor:				Three additional vehicles	1		1
First-class bars	77	1	78	Ferry boats	8		8
Second-class bars	74	1	75	Employment agencies	9		9
First-class bars and restaurants	40	2	42	Dyeing	16	1	17
Second-class bars and restaurants	13		13	Laundries	80	7	87
Groceries	88		88	Ice cream	12	4	16
Druggists	11		11	Ice water	1		1
Theaters	5		5	Distilleries	16		16
Wholesale	50		50	Junk shops	44	2	46
Hotels	19		19	Shipping office	2		2
Restaurants	801	188	989	Shooting gallery	7		7
Lodging houses	7		7	Second-hand furniture	6		6
Boarding houses	35	11	46	Foundry	1		1
Clubs	32		32	Dairies	4	1	5
Barber shops	334	23	357	To conduct a dairy, also to sell fresh milk	2		2
Billiards and pool tables	108	22	130	Grocery stores	6		6
Bowling alley	1		1	Aërated water	1		1
Dance halls	28	2	30	Peanut roaster	1		1
Palomar Park amusement	1	1	2	Sauce		1	1
Native-wines	2,631	112	2,743	Pawnbrokers	3		3
Cooked foods, fruits, vegetables, soft drinks, and bakery products	2,930	237	3,167	Bill posting and street advertising	5		5
Bakeries	8		8	Auctioneers	8		8
Livery stables	102	11	113	Pawnshops	1		1
Race track	1		1	Merry-go-rounds	7		7
Manufactures	216	36	252	Cinematographs	12		12
Slot machines	8		8	Undertakers	8		8
Embalmers	3		3	Breweries	1		1
Tattooers	14		14	Native pastries and gelatine	4	3	7
Fresh milk	2		2	Theaters	1	1	2
				Total	7,871	667	8,538

Culion leper colony division.

Status.	Europeans, male.	Filipinos.		Chinese, male.	Total.
		Male.	Female.		
Remaining July 1, 1909	2	1,082	654	3	1,741
Admitted	1	533	250	1	785
Born		8	8		16
Discharged				1	1
Escaped		22			22
Died		584	252	2	838
Remaining	3	1,017	660	1	1,681

Report of lepers living in the Philippine Islands.

	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Male.	Female.	Male.	Female.	Male.	Female.			
Culion leper colony	([a])	1,021	660	198	107	463	301	300	168	60	84	1,681
San Lazaro Hospital	([b])	117	49	12	3	49	17	53	20	3	9	166
Moro Province	Filipinos	143	77	8	3	86	44	45	18	9	12	220
Estimated number not yet transferred to Culion												205
Total		1,281	786	218	113	598	362	398	206	72	105	2,272

[a] Europeans, 3; Filipinos, 1,677; Chinese, 1. Total, 1,681.
[b] Americans, 1; Filipinos, 165. Total, 166.

Reports received of insane persons living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipinos	28	18			22	8	6	3		7	46
Agusan	do	3	2			2	1	1	1			5
Albay	do	48	50		1	29	29	15	13	4	7	98
Ambos Camarines	do	65	52	2	2	45	31	13	9	5	10	117
Antique	do	54	36	1		35	17	17	13	1	6	90
Bataan	do	22	13			10	7	8		4	6	35
Batanes	do	12	12			11	11	1			1	24
Batangas	do	71	55	1	1	50	31	13	11	7	12	126
Bohol	do	279	280	11	7	209	212	50	45	9	16	559
Bulacan	do	30	35		1	20	17	7	12	3	5	65
Cagayan	do	9	14			4	7	4	5	1	2	23
Capiz	do	60	56	2	1	36	23	15	17	4	17	116
Cavite	do	32	34			21	19	6	9	5	6	66
Cebu	do	175	108	20	13	129	78	24	9	2	8	283
Ilocos Norte	do	68	30			54	17	11	8	3	5	98
Ilocos Sur	do	92	58	1		65	33	17	20	9	5	150
Iloilo	do	61	67	2	4	46	37	10	11	3	15	128
Isabela	do		1						1			1
Laguna	do	28	33		1	20	15	6	5	2	12	61
Lepanto-Bontoc	do	20	21	4	1	14	10	2	7		3	41
Leyte	do	34	17	3		27	13	3	4	1		51
Masbate	do	5	4			4	3	1	1			9
Mindoro	do	9	7			8	4	1	2		1	16
Misamis	do	64	35	1		44	23	14	8	5	4	99
Negros Occidental	do	70	32	2		50	17	10	7	8	8	102
Negros Oriental	do	64	47			49	38	11	4	4	5	111
Nueva Ecija	do	22	25		1	18	15	3	7	1	2	47
Nueva Vizcaya	do	4	5			4	1		3		1	9
Pampanga	do	38	41			27	16	10	14	1	11	79
Pangasinan	do	109	91			59	38	37	34	13	19	200
Rizal	do	47	29			28	15	13	8	6	6	76
Samar	do	19	8		1	14	3	4	3	1	1	27
Sorsogon	do	76	72	2	4	55	42	17	14	2	12	148
Surigao	do	11	2			6		3	2	2		13
Tarlac	do	15	8	1		6	6	6	2	2		23
Tayabas	do	128	103	2	5	93	73	21	20	7	10	231
Union	do	40	31	1	4	18	17	16	8	5	2	71
Zambales	do	12	12			7	6	4	1	1	5	24
Hospicio de San José	([a])	54	50									104
San Lazaro Hospicio	([b])	147	25			80	10	52	11	15	4	172
Total		2,128	1,622	57	47	1,422	942	457	348	138	235	3,750

[a] Europeans, 11; Filipinos, 93. Total, 104.
[b] Americans, 3; Europeans, 1; Filipinos, 162; Chinese, 3; others, 3. Total, 172.

Reports received of blind persons living in the various provinces of the Philippine Islands.

Province.	Race.	Number of—		Children.		Single.		Married.		Widowers.	Widows.	Total.
		Males.	Females.	Male.	Female.	Male.	Female.	Male.	Female.			
Abra	Filipinos	25	31	2	------	10	6	10	9	3	16	56
Agusan	do	10	5	------	1	7	3	3	1	------	------	15
Albay	do	84	79	10	10	44	44	29	15	1	10	163
Ambos Camarines	do	98	65	6	7	38	32	36	11	18	15	163
Antique	do	44	38	2	3	22	15	15	9	5	11	82
Bataan	do	26	19	3	------	12	11	10	4	1	4	45
Batanes	do	13	33	1	1	2	6	8	8	2	18	46
Batangas	do	71	46	5	------	29	21	31	14	6	11	117
Bohol	do	211	160	37	16	109	82	47	29	18	33	371
Bulacan	do	67	63	5	1	27	27	30	15	5	20	130
Cagayan	do	51	64	3	4	15	14	18	13	16	33	115
Capiz	do	103	87	4	4	35	31	52	14	12	38	190
Cavite	do	69	50	8	4	25	18	23	13	13	15	119
Cebu	do	74	44	8	2	37	17	18	12	11	13	118
Ilocos Norte	do	32	27	1	------	10	8	16	8	5	11	59
Ilocos Sur	do	72	64	9	6	31	24	23	15	9	19	136
Iloilo	do	80	98	8	3	35	39	22	16	15	35	178
Laguna	do	56	44	8	5	24	16	13	7	11	16	100
Leyte	do	326	195	64	22	168	95	57	29	37	49	521
Masbate	do	13	8	1	1	8	5	2	------	2	2	21
Misamis	do	59	41	6	4	36	18	10	11	7	8	100
Mountain	do	49	32	------	------	------	------	------	------	------	------	81
Negros Occidental	do	96	68	8	5	51	34	11	8	26	21	164
Nueva Ecija	do	38	38	4	3	9	13	19	7	6	15	76
Pampanga	do	126	120	11	10	64	54	31	16	20	40	246
Pangasinan	do	94	89	4	5	33	33	40	24	17	27	183
Rizal	do	93	65	4	4	32	31	48	10	14	20	158
Sorsogon	do	189	107	28	18	123	70	30	10	8	9	296
Surigao	do	24	5	2	------	10	1	10	2	2	2	29
Tarlac	do	32	30	3	2	15	10	5	5	9	13	62
Tayabas	do	60	48	8	2	27	23	19	4	6	14	108
Union	do	35	39	6	6	15	8	7	10	7	15	74
Zambales	do	22	15	1	1	9	3	8	1	4	10	37
Total		2,442	1,907	280	150	1,112	812	696	350	315	568	4,349

Amount of vaccine virus distributed by the Bureau of Health.

	Units.
Amount on hand July 1, 1909	13,300
Received from the Bureau of Science	3,038,805
Found at the stations	2,000
Total to be accounted for	3,054,105
Distributed as per itemized statement	3,047,005
Remaining on hand June 30, 1910	7,100

Places at which vaccine virus was distributed.

Provinces:

Albay	52,900
Ambos Camarines	36,400
Antique	1,000
Bataan	5,600
Batangas	43,600
Benguet	5,500
Bohol	10,000
Bulacan	26,300
Cagayan	83,000
Capiz	329,000
Cavite	15,900
Cebu	872,000
Culion	9,500
Ilocos Norte	88,000
Ilocos Sur	104,100
Iloilo	633,000
Isabela	24,200
Laguna	27,400
Lepanto-Bontoc	15,000
Leyte	75,100
Marinduque	1,200
Mindanao	200

Provinces—Continued.	Units.
Mindoro	60,200
Misamis	90,000
Nueva Ecija	21,100
Nueva Vizcaya	10,200
Occidental Negros	75,000
Palawan	805
Pampanga	17,800
Pangasinan	55,300
Rizal	32,400
Samar	40,000
Sorsogon	16,200
Surigao	16,000
Tarlac	7,700
Tayabas	16,100
Union	27,200
Zambales	28,500
Total	2,973,405
Manila:	
Health districts	55,400
Other institutions	18,200
Total	73,600
Grand total	3,047,005

Nonsystematic vaccinations.

[Closed July 28, 1910.]

	Vaccinations.	Inspections.	Positive.	Negative.
City of Manila:				
Health district No. 1, Intramuros	3,862	1,585	950	635
Health district No. 2, Meisic	24,584	7,828	4,401	3,427
Health district No. 4, Sampaloc	2,042	766	346	420
Health district No. 5, Tondo	8,464	1,621	1,291	330
Health district No. 6, Paco	2,848	536	363	173
Total	41,799	12,336	7,351	4,985
Provinces:				
Albay	51,871	15,155	11,561	3,594
Ambos Camarines	30,858	15,817	11,168	4,649
Bataan and Zambales	3,026	2,812	1,715	1,097
Cagayan	48,075	8,837	5,507	3,330
Capiz	203,830	136,431	99,463	36,968
Cavite	6,858	6,524	3,774	2,750
Cebu	248,142	64,337	45,906	18,431
Iloilo	113,311	65,710	47,729	17,981
Isabela	20,071	261	180	81
La Laguna	35,647	33,177	21,482	11,695
Negros Occidental	28,624	17,351	13,095	4,256
Negros Oriental	6,317	3,794	3,197	597
Pampanga	16,183	10,209	8,683	1,526
Pangasinan	7,761	6,004	3,487	2,517
Rizal	19,428	21,762	13,370	8,392
Sorsogon	3,194	3,128	2,483	645
Tarlac	7,603	7,224	4,489	2,735
Tayabas	12,911	11,637	9,838	1,799
Zambales	28,667	14,043	11,238	2,805
Total	891,877	444,218	318,365	125,848
Grand total	933,676	456,549	325,716	130,833

Returns of vaccinations from the provinces where systematic vaccinations have been made during the fiscal year 1909–10.

[Closed July 29, 1910.]

Province.	Period.		Number of vaccinations.	Number of inspections.	Successful vaccinations.	Unsuccessful vaccinations.	Average vaccinations per 1,000 population.
	From—	To—					
Antique	June 1, 1909	Mar. 31, 1910	96,341	68,605	57,077	11,528	784.05
Leyte	May 1, 1910	June 30, 1910	30,521	14,179	8,693	5,486	78.47
Mindoro	Jan. 3, 1910	Apr. 3, 1910	35,525	19,558	13,889	5,869	1,099.23
Misamis	Jan. 11, 1909	Mar. 31, 1910	130,900	84,781	39,295	45,486	966.24
Total and average			293,287	187,123	118,904	68,189	426.31

Report of sera.

	Anti-pestic.	Plague prophylatic.	Assorted.
Bottles on hand at the beginning of the year	230	1,024	133
Received from the Bureau of Science			266
Total to be accounted for	230	1,024	399
Issued			266
Total bottles remaining at end of the year	230	1,024	133

Smallpox and varioloid, city of Manila.

Nationailty.	Smallpox.				Varioloid.			
	Cases.		Deaths.		Cases.		Deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans	1				3			
Filipinos	4				104	27		
Foreigners					3			
Chinese								
Total	5				110	27		

District and age.	Smallpox.		Varioloid.	
	Cases.	Deaths.	Cases.	Deaths.
Health districts:				
No. 1, Intramuros	1		15	
No. 2, Meisic	3		86	
No. 4, Sampaloc	1		21	
No. 5, Tondo			10	
No. 6, Paco			5	
Total	5		137	
Ages:				
Under 1 year			5	
1 years to 10 years	1		27	
10 years to 20 years	2		38	
20 years to 30 years	1		46	
30 years to 40 years			15	
40 years to 50 years			3	
Over 50 years	1		3	
Total	5		137	

Number of cases found alive, smallpox, 5; varioloid, 137.
Number of cases found dead, smallpox, 0; varioloid, 0.

Cholera and plague, city of Manila.

Nationality.	Cholera.				Plague.			
	Cases.		Deaths.		Cases.		Deaths.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Americans								
Filipinos	193	171	157	133				
Foreigners	5	2	1	1				
Chinese	6		6					
Total	204	173	164	134				

District and age.	Cholera.		Plague.	
	Cases.	Deaths.	Cases.	Deaths.
Health districts:				
No. 1, Intramuros	47	36		
No. 2, Meisic	102	81		
No. 4, Sampaloc	69	47		
No. 5, Tondo	104	89		
No. 6, Paco	55	45		
Total	377	298		
Ages:				
Under 1 year	18	18		
1 year to 10 years	87	78		
10 years to 20 years	48	29		
20 years to 30 years	99	66		
30 years to 40 years	53	47		
40 years to 50 years	33	26		
Over 50 years	37	32		
Unknown	2	2		
Total	377	298		

Number of cases found alive, cholera, 204; plague, 0.
Number of cases found dead, cholera, 173; plague, 0.

Cholera in the provinces.

Towns.	Cases.	Deaths.	Mortality.
Albay:			*Per ct.*
Albay	44	36	
Calolbon	8	2	
Camalig	28	14	
Daraga	80	33	
Guinobatan	5	2	
Legaspi	25	14	
Libog	12	12	
Libon	2	2	
Ligao	24	18	
Malilipot	12	7	
Oas	15	8	
Polangui	5	1	
Tabaco	4	1	
Total	254	150	59.05
Ambos Camarines:			
Baao	23	17	
Bato	70	53	
Bula	5	2	
Cabusao	61	37	
Calabanga	158	114	
Camaligan	45	19	
Canamam	14	10	
Daet	4	3	
Gainza	1	1	
Goa	1	1	
Iriga	4	3	
Libmanan	90	68	
Ambos Camarines—Ctd.			*Per ct.*
Mabatobato	10	10	
Magarao	55	43	
Milaor	20	16	
Minalabag	2	2	
Nabua	59	48	
Nueva Caceres	109	83	
Pamplona	36	23	
Pasacao	9	8	
Pili	1	1	
San Fernando	29	19	
Tinambac	45	28	
Total	851	609	71.56
Bataan:			
Abucay	121	85	
Balanga	195	147	
Dinalupijan	1		
Lamay	9	1	
Orani	7	4	
Orion	141	113	
Pilar	95	66	
Samal	42	30	
Total	611	446	72.99
Batangas:			
Lipa	1		0.00

Cholera in the provinces—Continued.

Towns.	Cases.	Deaths.	Mortality.
Bohol:			*Per ct.*
Alburquerque	3	3	
Candijay	7	5	
Cortes	23	16	
Corella	1	1	
Dauis	2	2	
Dimiao	28	15	
Getafe	19	11	
Inabanga	87	54	
Jagna	1	1	
Loay	50	33	
Loboc	69	47	
Mabini	8	5	
Panglao	1	1	
Tagbilaran	14	11	
Total	313	205	65.49
Bulacan:			
Baliuag	96	57	
Bigaa	2	2	
Bocaue	37	24	
Bulacan	113	98	
Calumpit	67	53	
Hagonoy	154	114	
Meycauayan	32	14	
Malolos	164	120	
Obando	27	18	
Paombong	51	36	
Polo	19	12	
Pulilan	13	8	
Quingua	41	27	
San Ildefonso	1	1	
San Miguel de Mayumo	3	1	
San Rafael	3	1	
Santa Maria	9	6	
Total	832	592	71.15
Cagayan:			
Abulug	111	94	
Alcala	43	18	
Aparri	62	34	
Camalaniugan	39	19	
Gattaran	29	18	
Jimenez	1	1	
Lalloc	37	23	
Mauanan	94	59	
Piat	115	74	
Pinnapo	12	12	
Santo Niño	111	71	
Solana	2	1	
Tuao	232	158	
Tuguegarao	47	28	
Total	935	600	62.03
Cavite:			
Bacoor	1	-------	
Caridad	1	1	
Cavite	24	12	
Imus	42	20	
Indang	12	9	
Kawit	74	56	
Maragondon	5	4	
Naic	105	94	
Noveleta	18	14	
San Francisco de Malabon	64	55	
Santa Cruz de Malabon	19	14	
Total	365	279	76.43
Cebu:			
Alegria	1	1	
Argao	4	3	
Cebu—Continued.			*Per ct.*
Asturias	13	8	
Balamban	15	9	
Bantayan	33	11	
Bayanan	10	5	
Carcar	36	25	
Carmen	3	2	
Cebu	587	408	
Daan-Bantayan	11	5	
Dalaguete	3	2	
Danao	3	2	
Liloan	11	2	
Malaboyoc	1	1	
Mandaue	53	41	
Minglanilla	26	19	
Naga	28	26	
Opon	29	18	
San Fernando	9	4	
Sibonga	107	54	
Talisay	60	49	
Tanjay	5	3	
Tolon	4	1	
Tuburan	6	5	
Total	1,058	704	66.56
Ilocos Norte:			
Badoc	126	69	
Batac	12	9	
Dingras	20	13	
Laoag	30	22	
Paoay	30	20	
San Miguel	11	10	
Total	229	143	47.82
Ilocos Sur:			
Vigan	1	1	100.00
Isabela:			
Cabagan Nuevo	38	21	
Ilagan	10	7	
Santa Maria	31	17	
Tumauini	3	3	
Total	82	48	58.53
Laguna:			
Cabuyao	2	2	
Calamba	27	13	
Santa Cruz	1	1	
Total	30	16	53.33
Leyte:			
Barugo	3	3	
Baybay	23	15	
Palo	2	-------	
Palompon	1	-------	
Tacloban	19	19	
Total	48	37	80.41
Misamis:			
Cagayan	26	17	
Mambajao	41	23	
Total	67	40	59.70
Mountain:			
Baguio	2	1	50.00
Nueva Ecija:			
Aliaga	14	8	
San Isidro	4	3	
Total	18	11	61.11

Cholera in the provinces—Continued.

Towns.	Cases.	Deaths.	Mortality.
Occidental Negros:			*Per ct.*
Cabancalan	20	5	25.00
Oriental Negros:			
Ayuquitan	6	3	
Bacong	60	56	
Bais	91	53	
Dauin	57	48	
Dumaguete	109	89	
Luzuriaga	28	19	
Manjuyod	18	12	
Siaton	179	124	
Sibulan	4	4	
Station	5	5	
Tanjay	94	57	
Tolong	2	2	
Zamboanguita	56	33	
Total	704	505	71.73
Palawan:			
Culion	22	22	100.00
Pampanga:			
Angeles	1	1	
Apalit	97	74	
Arayat	40	34	
Bacolor	157	117	
Betis	11	8	
Candaba	41	35	
Guagua	55	50	
Lubao	53	44	
Mabalacat	6	6	
Macabebe	75	61	
Magalang	3	2	
Masantol	19	16	
Mexico	13	8	
Minalin	32	25	
Porac	37	23	
San Fernando	62	46	
San Luis	58	46	
San Simon	11	11	
Santa Rita	60	50	
Sexmoan	40	28	
Total	871	685	78.64
Pangasinan:			
Aguilar	78	49	
Alaminos	10	9	
Alcala	15	12	
Asingan	35	28	
Balungao	27	16	
Bani	18	16	
Bautista	31	24	
Bayambang	67	55	
Binmaley	14	11	
Bolinao	4	2	
Calasiao	51	37	
Dagupan	110	99	
Lingayen	118	110	
Malasiqui	108	65	
Manaoag	58	49	
Mangaldan	64	43	
Mangatarem	246	158	
Mapandan	65	47	
Natividad	1	1	
Pozorrubio	4	1	
Rosales	4	6	
Salasa	12	10	
San Carlos	62	42	
San Fabian	2	2	
San Isidro	28	24	
Pangasinan—Contd.			*Per ct.*
San Jacinto	8	3	
San Manuel	9	6	
San Nicolas	1	--------	
San Quintin	3	1	
Santa Barbara	72	37	
Santa Maria	3	--------	
Santo Tomas	2	1	
Sual	33	20	
Tayug	1	1	
Umingan	2	1	
Urbiztondo	5	2	
Urdaneta	300	258	
Villasis	96	57	
Total	1,762	1,298	73.66
Rizal:			
Antipolo	3	--------	
Caloocan	8	6	
Malabon	63	54	
Muntinlupa	10	8	
Navotas	42	29	
Parañaque	1	1	
Pasay	2	1	
Pasig	20	8	
Pateros	12	8	
San Felipe Neri	19	8	
San Juan del Monte	2	1	
San Pedro Macati	2	2	
Taguig	7	7	
Taytay	5	2	
Total	196	135	68.87
Romblon:			
Romblon	3	2	66.66
Samar:			
Calbayog	2	1	50.00
Sorsogon:			
Masbate	21	12	
Mobo	4	3	
Total	25	15	60.00
Tarlac:			
Anao	2	1	
Camiling	124	89	
Gerona	60	47	
Moncada	24	12	
Paniqui	35	25	
San Manuel	6	6	
San Vicente	7	--------	
Tarlac	11	9	
Total	269	189	70.26
Tayabas:			
Lucena	4	4	
Sariaya	1	1	
Total	5	5	100.00
Union:			
Aringay	--------	1	
Bacnotan	2	1	
Total	2	2	100.00
Zambales:			
San Antonio	2	1	50.00

SUMMARY BY PROVINCES.

Province.	Cases.	Deaths.	Province.	Cases.	Deaths.
Albay	254	150	Nueva Ecija	18	11
Ambos Camarines	851	609	Occidental Negros	20	5
Bataan	611	446	Oriental Negros	704	506
Batangas	1	------	Palawan	22	22
Bohol	313	205	Pampanga	871	685
Bulacan	832	592	Pangasinan	1,762	1,298
Cagayan	935	600	Rizal	196	135
Cavite	365	279	Romblon	3	2
Cebu	1,058	704	Samar	2	1
Ilocos Norte	229	143	Sorsogon	25	15
Ilocos Sur	1	1	Tarlac	269	189
Isabela	82	48	Tayabas	5	5
Laguna	30	16	Union	2	2
Leyte	48	37	Zambales	2	1
Misamis	67	40			
Mountain	2	1	Grand total	9,580	6,747

NOTE.—The information in this table is based upon corrected and revised reports.

Mortality among Government employees.

[All deceased are males.]

	Americans.	Filipinos.
Mean number of employees	2,019	7,601
Deaths reported:		
From illness	15	33
From violence	5	3
Total	20	36
Deaths from illness:		
Average years of service	4.37	3.86
Average age at death	34	32
Annual death rate per thousand	7.42	4.34
Deaths from violence:		
Average years of service	4.80	1.92
Average age at death	35	30
Annual death rate per thousand	2.47	0.39
All deaths:		
Average years of service	4.35	3.70
Average age at death	34	31
Annual death rate per thousand	9.90	4.73
Both nationalities:		
Population		9,620
Number of deaths		56
Average years of service		3.93
Average age at death		32
Annual death rate per thousand		5.82

General return of births and deaths in the various provinces of the Philippine Islands, during the calendar year 1909.

	Abra.	Agusan.	Albay.	Ambos Camarines.	Antique.	Batangas.	Bohol.
Mean population	61,005	16,172	241,431	236,911	130,891	288,834	269,223
Births	1,941	432	11,927	9,676	4,429	14,340	11,200
Annual birth rate per 1,000	31.83	26.71	49.40	40.84	33.83	49.64	41.60
Deaths:							
From 0 to 1 year	367	61	1,416	1,174	625	3,402	1,398
From 1 to 2 years	231	14	484	459	320	1,419	438
From 2 to 10 years	515	36	1,135	1,025	647	1,963	1,101
From 10 to 20 years	96	19	421	471	170	395	401
From 20 to 60 years	400	79	1,751	1,963	541	1,758	1,344
Over 60 years	261	19	921	763	239	836	965
Unknown	0	0	1	7	5	4	49
CAUSES OF DEATH.							
Typhoid fever	28	8	33	18	0	107	69
Malarial fever	589	37	523	777	417	1,745	287
Malarial cachexia	0	4	210	17	10	251	14
Smallpox	0	1	1	1	575	4	6
Whooping cough	74	10	75	44	29	57	218
Cholera, Asiatic	24	0	350	655	11	1	524
Dysentery	390	7	147	193	163	775	175
Beriberi	2	2	26	78	0	52	39
Tuberculosis of lungs	74	2	532	500	379	762	379
Tuberculosis of other organs	4	1	46	55	22	139	116
Cancer and other malignant tumors	1	0	5	16	2	31	33
Congestion and hemorrhage of the brain	3	0	27	7	0	24	1
Convulsions of children	66	7	864	496	84	1,504	55
Acute bronchitis	2	6	169	51	1	365	3
Diarrhea and enteritis (under 2 years)	21	1	112	39	52	218	6
Chronic diarrhea and enteritis (under 2 years)	0	1	18	30	67	170	10
Diarrhea and enteritis (2 years and over)	42	2	91	122	65	348	14
Diseases of the puerperal state	16	3	186	151	32	144	104
Suicides	3	0	0	11	0	11	27
Accidental traumatism	3	0	20	16	10	32	32
Accidental drowning	3	1	1	3	3	17	6
Acute poisonings	2	0	5	2	0	10	4
All other diseases	523	135	2,693	2,580	625	3,010	3,574
Total	1,870	228	6,129	5,862	2,547	9,777	5,696
Males	1,019	133	3,170	2,993	1,303	5,081	2,928
Females	851	95	2,959	2,869	1,244	4,696	2,768
Annual death rate per 1,000	30.65	14.09	25.38	24.74	19.45	33.85	21.15
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	236	35	732	799	208	783	641
Widowers	104	12	350	455	105	318	239
Single	62	14	402	353	89	237	310
Boys	617	69	1,685	1,374	901	3,723	1,689
Condition not stated	0	3	1	12	0	20	49
Females:							
Married	183	24	664	695	226	765	597
Widows	99	15	527	498	171	561	415
Single	63	3	349	419	113	245	409
Girls	506	53	1,419	1,337	731	3,124	1,308
Condition not stated	0	0	0	20	3	1	39

General return of births and deaths in the various provinces of the Philippine Islands, during the calendar year 1909—Continued.

	Bulacan.	Cagayan.	Capis.	Ilocos Norte.	Ilocos Sur.	Iloilo.	Laguna.
Mean population	225,766	136,896	220,502	200,735	190,079	405,868	144,486
Births	10,795	5,334	8,760	8,019	7,911	15,409	6,481
Annual birth rate per 1,000	47.81	38.96	39.72	39.94	41.61	37.96	44.85
Deaths:							
From 0 to 1 year	2,983	1,077	1,378	885	1,452	2,752	1,972
From 1 to 2 years	985	318	614	388	795	1,357	653
From 2 to 10 years	1,883	903	1,336	810	1,481	2,550	885
From 10 to 20 years	356	429	506	253	171	701	269
From 20 to 60 years	2,010	1,869	1,773	1,019	807	2,574	1,684
Over 60 years	1,034	555	706	636	585	980	659
Unknown	9	20	6	3	8	27	32
CAUSES OF DEATH.							
Typhoid fever	198	7	68	63	136	56	57
Malarial fever	509	734	695	988	616	982	898
Malarial cachexia	15	79	82	0	0	471	207
Smallpox	447	0	479	0	28	1,609	55
Whooping cough	31	8	132	12	34	44	36
Cholera Asiatic	447	1,169	355	203	4	47	66
Dysentery	557	254	618	244	1,296	884	545
Beriberi	241	35	92	28	17	53	66
Tuberculosis of lungs	872	339	511	387	392	1,066	767
Tuberculosis of other organs	198	66	45	29	17	255	88
Cancer and other malignant tumors	15	1	14	8	8	64	15
Congestion and hemorrhage of the brain	53	1	5	3	15	81	37
Convulsions of children	2,457	418	313	353	466	1,780	1,101
Acute bronchitis	174	20	37	46	134	112	123
Diarrhea and enteritis (under 2 years)	106	147	87	91	216	85	131
Chronic diarrhea and enteritis (under 2 years)	89	24	22	0	3	62	76
Diarrhea and enteritis (2 years and over)	196	12	160	82	218	245	125
Diseases of the puerperal state	107	65	75	60	69	194	105
Suicides	8	20	17	14	10	15	15
Accidental traumatism	48	12	82	17	27	76	38
Accidental drowning	14	7	20	5	11	11	15
Acute poisonings	4	2	0	9	6	0	1
All other diseases	2,474	1,751	3,410	1,352	1,571	2,849	1,596
Total	9,260	5,171	6,319	3,994	5,294	10,941	6,154
Males	4,841	2,754	3,272	1,996	2,644	5,902	3,219
Females	4,419	2,417	3,047	1,998	2,650	5,039	2,935
Annual death rate per 1,000	41.04	37.77	28.65	19.89	27.85	26.95	42.59
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	945	868	689	474	393	1,021	807
Widowers	385	301	293	233	202	623	259
Single	405	304	360	228	114	510	209
Boys	3,015	1,251	1,927	1,061	1,933	3,738	1,923
Condition not stated	91	30	3	0	2	10	21
Females:							
Married	827	723	657	454	387	856	731
Widows	560	413	511	369	285	745	426
Single	295	218	406	228	146	346	149
Girls	2,652	1,024	1,462	946	1,831	3,089	1,605
Condition not stated	85	39	11	1	1	3	24

General return of births and deaths in the various provinces of the Philippine Islands, during the calendar year 1909—Continued.

	Misamis.	Negros Occidental.	Nueva Ecija.	Pampanga.	Pangasinan.	Tarlac.	Tayabas.
Mean population	132,601	304,668	132,999	225,113	439,788	139,971	201,936
Births	5,478	9,908	5,414	11,289	21,561	6,870	8,227
Annual birth rate per 1,000	41.31	82.52	40.70	50.14	49.02	49.08	40.74
Deaths:							
From 0 to 1 year	896	2,064	1,300	2,919	4,111	1,689	1,725
From 1 to 2 years	210	1,082	567	875	1,782	698	474
From 2 to 10 years	349	1,958	933	1,481	3,183	959	795
From 10 to 20 years	182	628	218	838	613	245	353
From 20 to 60 years	720	2,284	958	1,883	2,874	1,025	1,720
Over 60 years	207	656	471	919	1,688	438	723
Unknown	194	25	7	0	6	0	5
CAUSES OF DEATH.							
Typhoid fever	102	21	62	195	259	114	94
Malarial fever	589	941	923	1,044	2,158	876	625
Malarial cachexia	8	833	210	291	335	297	408
Smallpox	0	1,400	240	22	274	84	1
Whooping cough	78	13	42	27	43	28	39
Cholera, Asiatic	30	340	1	539	1	101	1
Dysentery	75	848	152	361	1,129	185	300
Beriberi	86	50	42	56	62	22	61
Tuberculosis of lungs	228	887	405	904	1,356	455	685
Tuberculosis of other organs	76	22	37	60	134	45	100
Cancer and other malignant tumors	10	19	5	12	15	1	27
Congestion and hemorrhage of the brain	2	10	9	41	38	7	65
Convulsions of children	139	954	965	1,814	2,470	917	509
Acute bronchitis	32	15	45	167	192	37	126
Diarrhea and enteritis (under 2 years)	23	38	106	61	134	26	68
Chronic diarrhea and enteritis (under 2 years)	19	39	126	73	44	21	52
Diarrhea and enteritis (2 years and over)	33	103	74	98	141	49	40
Diseases of the puerperal state	62	91	88	135	215	55	153
Suicides	15	9	1	3	24	7	18
Accidental traumatism	9	58	8	27	78	35	33
Accidental drowning	1	8	0	20	20	7	8
Acute poisonings	2	2	3	2	8	13	1
All other diseases	1,144	2,496	910	2,463	5,127	1,672	2,386
Total	2,758	8,697	4,454	8,415	14,257	5,054	5,795
Males	1,492	4,666	2,363	4,484	7,623	2,628	2,975
Females	1,266	4,031	2,091	3,931	6,634	2,426	2 820
Annual death rate per 1,000	20.80	28.54	33.48	37.38	32.41	36.10	28.69
A CLASSIFIED REPORT OF ALL DEATHS OCCURRING.							
Males:							
Married	342	838	461	860	1,451	484	832
Widowers	120	425	215	343	664	202	260
Single	162	500	162	274	360	151	251
Boys	866	2,797	1,522	3,001	5,131	1,791	1,615
Condition not stated	2	106	3	6	17	0	17
Females:							
Married	285	724	415	850	1,383	479	771
Widows	131	569	274	508	902	246	461
Single	119	325	91	211	229	97	204
Girls	729	2,301	1,311	2,360	4,107	1,603	1,369
Condition not stated	2	112	0	2	13	1	15

Statistics of San Lazaro Hospitals division.

Report of sick.

Patients in hospital July 1, 1909	294
Patients admitted during the year	956
Patients discharged during the year	479
Patients transferred during the year	221
Patients escaped during the year	3
Patients died during the year	188
Patients remaining June 30, 1910	354

Average number of patients treated per day.

July, 1909	297	January, 1910	379
August, 1909	305	February, 1910	308
September, 1909	337	March, 1910	299
October, 1909	290	April, 1910	320
November, 1909	336	May, 1910	320
December, 1909	365	June, 1910	339

Average daily cost of subsistence per person.

July, 1909	₱0.382	January, 1910	₱0.283
August, 1909	0.303	February, 1910	0.299
September, 1909	0.301	March, 1910	0.298
October, 1909	0.337	April, 1910	0.294
November, 1909	0.331	May, 1910	0.291
December, 1909	0.324	June, 1910	0.272

Number of buildings in which orders were completed, including special sewer orders.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	4 0	17 0	5 0	4 0	1 0	31 [a]0
August	5 0	15 1	4 8	1 0	2 1	27 [a]10
September	10 0	9 1	2 6	0 0	0 0	21 [a]7
October	11 2	6 5	11 10	2 0	2 1	32 [a]18
November	4 2	2 10	1 2	2 1	6 3	15 [a]18
December	4 5	8 4	1 2	1 1	3 3	17 [a]15
1910.						
January	5 6	8 9	5 2	4 0	0 2	22 [a]19
February	3 3	2 1	3 2	1 0	1 0	10 [a]6
March	4 3	13 7	4 2	0 1	2 1	23 [a]14
April	10 1	12 6	1 0	0 2	5 1	28 [a]10
May	0 26	0 18	4 2	0 1	0 2	4 [a]49
June	0 12	5 21	1 11	0 0	0 2	6 [a]46
Total	60 60	97 83	42 47	15 6	22 16	236 [a]212

[a] Special sewer orders completed.

Number of buildings against which sanitary orders were issued, including special sewer orders, also orders for vacating insanitary houses.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
Orders pending June 30, 1909	26	68	32	3	5	134
1909.						
July	9	21	14	5	1	50
	0	3	0	0	2	[a]5
August	14	12	9	1	6	42
	7	4	4	0	0	[a]15
September	7	11	8	0	9	35
	3	10	1	0	3	[a]17
October	4	4	7	4	1	20
	11	16	2	4	2	[a]35
November	3	5	5	4	2	19
	14	15	4	2	6	[a]41
December	5	12	0	8	1	26
	21	17	5	0	2	[a]45
1910.						
January	1	1	1	0	0	3
	14	1	3	0	1	[a]19
February	2	4	0	0	2	8
	51	48	5	0	2	[a]104
March	0	19	0	0	0	19
	68	96	60	0	0	[a]224
April	0	0	0	1	0	1
	40	79	5	2	5	[a]131
May	0	2	0	0	0	2
	29	55	10	1	6	[a]101
June	5	11	2	1	1	20
	64	62	19	0	3	[a]148
Total	76	170	78	27	28	379
	322	406	117	9	32	[a]886

[a] Special sewer orders issued.

Number of buildings for which orders were canceled or withdrawn.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	0	0	0	1	1	2
	0	0	0	0	0	[a]0
August	0	0	0	0	0	0
	0	0	0	0	0	[a]0
September	2	1	2	1	1	7
	0	2	0	0	0	[a]2
October	2	1	1	0	1	5
	0	0	0	0	0	[a]0
November	0	0	0	0	1	1
	0	0	0	0	0	[a]0
December	0	0	0	0	0	0
	1	0	0	0	0	[a]1
1910.						
January	0	4	0	0	0	4
	0	1	0	0	0	[a]1
February	0	4	1	0	0	5
	0	0	1	0	0	[a]1
March	1	3	3	1	1	9
	0	1	0	0	0	[a]1
April	0	1	0	3	0	4
	0	0	0	0	0	[a]0
May	1	1	3	0	0	5
	0	2	0	0	0	[a]2
June	2	2	0	0	0	4
	5	2	1	0	0	[a]8
Total	8	17	10	6	5	46
	6	8	2	0	0	[a]16

[a] Special sewer orders canceled.

Legal prosecutions with amount of fines.

Month.	Health districts.					Amount of fines.
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	
1909.						
July	0	2	0	0	0	₱10.00
August	0	0	0	0	0	
September	0	0	0	0	0	
October	0	0	0	0	0	
November	0	0	0	0	0	
December	0	0	0	0	0	
1910.						
January	0	0	0	0	0	
February	0	0	0	0	0	
March	[a]1	2	0	0	0	20.00
April	1	2	0	0	0	46.00
May	0	0	0	0	0	
June	1	0	0	0	0	[b]5.00
Total	3	6	0	0	0	81.00

[a] Case dismissed after work had been completed.

[b] The fine imposed against the owner was reduced from ₱25 to ₱5 in the Court of First Instance upon appeal from a conviction in the municipal court during the month of May, 1910.

Number of insanitary houses condemned and removed.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	3	6	14	0	0	23
August	0	0	5	0	0	5
September	0	3	0	0	0	3
October	0	0	0	0	0	0
November	3	0	3	0	0	6
December	0	1	0	0	0	1
1910.						
January	0	0	0	0	0	0
February	0	3	4	0	0	7
March	2	4	0	0	0	6
April	0	0	0	0	0	0
May	0	0	0	0	0	0
June	0	0	0	0	0	0
Total	8	17	26	0	0	51

Synopsis of work accomplished during fiscal year 1909–1910.

Fiscal year 1909–10.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
Total of orders pending and issued	26 50 322	68 102 406	82 46 117	3 24 9	5 23 32	184 245 [a]886
Total of orders completed	60 60	97 83	42 47	15 6	22 16	236 [a]212
Total of orders canceled	8 6	17 8	10 2	6 0	5 0	46 [a]16
Total of houses removed	8	17	26	0	0	51
Prosecutions	0 3	2 4	0 0	0 0	0 0	2 [a]7
Total of orders pending June 30, 1910	0 253	37 311	0 68	6 3	1 16	44 [a]651

[a] Special sewer orders.

Permits for light-material buildings approved.

Month.	Health districts.					
	No. 1.	Nos. 2 and 8.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	1	1	16	27	14	59
August	6	2	28	70	26	182
September	1	2	17	29	80	79
October	1	1	9	27	16	54
November	0	0	9	22	15	46
December	0	0	3	14	8	25
1910.						
January	0	0	6	19	7	82
February	0	0	6	83	8	97
March	0	0	10	20	16	46
April	0	1	50	16	9	76
May	0	2	43	42	14	101
June	0	0	21	71	15	107
Total	9	9	218	440	178	854

Plans for new strong-material buildings approved.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	1	6	6	5	1	19
August	4	6	0	2	1	13
September	2	7	3	5	3	20
October	8	5	6	2	4	25
November	0	2	3	4	4	18
December	6	4	4	7	0	21
1910.						
January	6	8	3	3	1	21
February	6	5	6	6	1	24
March	9	7	4	2	3	25
April	7	1	5	5	0	18
May	3	10	14	3	2	82
June	16	13	12	3	3	47
Total	68	74	66	47	23	278

New strong-material buildings completed according to approved plans.

Month.	Health districts.					
	No. 1.	Nos. 2 and 8.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July	2	2	1	0	1	6
August	0	1	1	0	2	4
September	5	3	6	2	0	16
October	4	7	2	3	2	18
November	10	5	4	6	4	29
December	0	4	5	2	1	12
1910.						
January	1	7	6	6	1	21
February	2	2	1	1	2	8
March	2	1	0	2	1	6
April	0	2	1	3	0	6
May	3	0	0	0	0	3
June	2	2	1	2	0	7
Total	81	86	28	27	14	136

Total number of sewer connections made and in use; this includes voluntary and compulsory.

Month.	Health districts.					
	No. 1.	Nos. 2 and 3.	No. 4.	No. 5.	No. 6.	Total.
1909.						
July						265
August						
September						
October						
November						
December						
1910.						
January						
February	16	4	7	0	3	30
March	18	22	7	4	7	58
April	21	24	6	6	3	60
May	41	29	6	2	2	80
June	26	27	18	0	2	73
Total	122	106	44	12	17	566

Personnel of the division.

Month.	Engineers.	Assistant engineers.	Inspectors.	Clerks.	Draftsmen.	Messengers.	Total.
1909.							
July	0	2	3	2	1	2	10
August	2	2	1	1	1	2	7
September	0	2	1	2	1	1	7
October	0	2	1	2	1	1	7
November	0	2	2	2	1	1	8
December	0	2	2	2	1	1	8
1910.							
January	1	2	4	2	1	1	11
February	1	1	5	2	1	1	11
March	1	1	6	2	1	1	12
April	1	1	5	2	1	1	11
May	1	1	3	2	1	1	9
June	1	0	2	2		1	7

CIVIL HOSPITAL DIVISION.

Classification of medical cases.[a]

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Alcoholism	22			
Amœbiasis intestinalis	51	11	2	
Anæmia		2		
Apoplexy	8		1	
Asthma	7			
Beriberi	28	5	1	
Bronchiectasis	1			
Bronchitis:				
Acute	22	6		
Chronic	9	8		
Broncho-pneumonia	2	1	1	
Cholera Asiatica (suspects)	2	1		
Cirrhosis of liver	1		2	

[a] This classification does not represent the number of patients treated, but the number admitted for the 301 causes stated and the number of deaths that occurred.

Classification of medical cases—Continued.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Colic:				
Intestinal	21	6		
Renal	2			
Constipation	13	5		
Convalescence from:				
Malaria	23			
Dysentery	8	1		
Debility	10	3		
Dengue	33	6		
Diphtheria	1			
Dysentery (not amœbic)	28	5		
Dyspepsia	1	1		
Emphysema	1			
Endocarditis		1		
Enteritis:				
Acute	21	7		
Chronic	1	1		
Gastro	5	5		
Tubercular	1			
Epilepsy	5			
Erysipelas	2			
Fatigue	1			
Febricula	2			
Fever:				
Simple continued	3			
Unclassified	27	1		
Gastric ulcer	1			
Gastralgia	1			
Gastritis:				
Acute	8	3		
Chronic	4			
Goitre, exophthalmic		1		
Heat exhaustion	1			
Hemiplegia, (See Apoplexy.)				
Hemoptysis	4	1		
Hysteria		5		
Indigestion	14	2		
Influenza (la grippe)	9	2		
Intestinal obstruction	1			
Intestinal parasites				
Ascario-Lumbricoides	25	3		
Hookworms	10			
Monads	17	2		
Oxyuris vermicularis	1			
Strongyloides	5			
Tenia	1			
Trichuris trichura	55	7		
Trichocephalus dispar	1			
Jaundice, catarrhal	1			
Locomotor ataxia	1	1		
Lumbago	7			
Malaria:				
Cachexia	1			
Estivo-autumnal	31	3		
Quartan	1			
Tertian	60	3		
Malnutrition	2	1		
Mania	1			
Marasmus		1	2	
Melancholia	1			
Migraine	6			
Mitral disease	10	1	1	
Mumps		1		
Myalgia	3			
Nephritis:				
Acute	1			
Chronic interstitial	2			
Chronic parenchymatous	1			
Neuralgia	2			
Neurasthenia	3	1		
Neuritis	1			
Panophthalmitis	1			
Peritonitis, tubercular	1	1		
Pharyngitis	2	1		
Phosphaturia		1		
Pleurisy	3			
Pneumonia lobar	12		2	
Poisoning:				
Camphor				1
Carbolic acid	1		1	
Ptomaine	3		1	

Classification of medical cases—Continued.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Rachitis		1		
Rheumatism:				
Acute	1	1		
Chronic	3			
Rhinitis	1			
Scurvy		1		
Seasickness		1		
Septicemia, general				1
Sciatica	1	1		
Smallpox, suspected	1			
Syncope, cardiac	2			
Sprue	1			
Syphilis:				
Secondary	4			
Tertiary	1		1	
Tachycardia	1			
Teething	1			
Torticollis	1			
Tuberculosis	28	6	4	
Typhoid fever	8	2		
Undetermined (those leaving before diagnosis and those for observation)	24	5		
Vaccinia	1			
Varicella	3			
Yaws	1			

Classification of surgical cases (including eye, ear, nose, throat, and skin).

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Abdominal adhesions		1		
Abscess:				
Arm and forearm	1			
Antrum	1			
Breast		1		
Back	2			
Face	1			
Foot	2			
Gluteal	1			
Liver	4			
Perineal	3			
Periurethral	2			
Prostatic	1			
Scalp	1			
Thigh	2			
Toe	1			
Amputation:				
Arm	2			
Breast		1		
Fingers	8			
Leg		1		
Thigh		1		
Toes	2	1		
Aneurysm:				
Aortic	1	1		
Subclavian	8			
Appendicitis:				
Catarrhal acute	18	4		
Catarrhal chronic	20	5		
Suppurative	7	2		
Arthritis, gonorrheal	2	2		
Buboes	19			
Burns	7	1	8	1
Bursitis of hip	1			
Carbuncle	6			
Carcinoma:				
Of breast		1		
Of mesentery	1	1	2	
Cataract	6	2		
Cellulitis of face and neck	2			
Chancroids	7			
Cholecystitis	1			
Cholelithiasis (gallstones)	8	2		
Circumcision	7			
Cleft palate	1			

Classification of surgical cases (including eye, ear, nose, throat, and skin)—Cont.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Concussion of brain		1		
Conjunctivitis:				
Catarrhal	8			
Gonorrheal	1			
Mucopurulent	5			
Traumatic	1			
Contusions:				
Of back	11			
Of chest	8	1		
Of eyelids and eye	2	1		
Of foot	8			
Of head	1			
Of hip	8			
Of leg	2			
Of thigh	1			
Corneal ulcers	6			
Coxalgia		1		
Cyst, sebaceous	3			
Cystitis	5	2		
Cutting of throat	1		1	
Dermatitis	1			
Dislocation:				
Of shoulder	1			
Of spine	1			
Of wrist	1			
Ectropion	1			
Eczema	10			
Enucleation of eye	8			
Epididymitis	1			
Extraction of teeth	1			
Felon	1			
Fistula in ano	12			
Fistula, perineal	4			
Fracture:				
Colles'	4			
Jaws	2			
Of leg	1			
Of arm	2			
Of metacarpals	1			
Of rib	4			
Of skull	1		1	
Of spine	1			
Of thigh	1			
Of ununited clavicle	1			
Furunculosis:				
Of ear	1	2		
General	2			
Gingivitis	1			
Goitre, cystic		1		
Gonorrhea	21			
Harelip	1			
Hemorrhoids	14	2		
Hernia:				
Inguinal	10			
Abdominal	1			
Ingrowing toe nails	3			
Intestinal adhesions		2		
Iridocyclitis	1			
Iritis		1		
Keratitis	2	2		
Lachrymal cyst	1			
Laryngitis	2	1		
Lymphangitis	1			
Nephrolithiasis	1			
Optic atrophy	2			
Optic neuritis	1			
Orchitis:				
Gonorrheal	4			
Traumatic	2			
Osteoperiostitis	1			
Otitis:				
Externa	3			
Media	4			
Pancreatitis			1	

Classification of surgical cases (including eye, ear, nose, throat, and skin)—Cont.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Paraphimosis	2			
Phlebitis	1			
Prolapse of rectum	1			
Prostatitis	1			
Psoriasis	1			
Pterygium	6			
Phthisis bulbi	1			
Pyelitis and pyonephrosis	2			
Purpura		1		
Retinal hemorrhage		1		
Rupture:				
Of eye	1			
Of muscle	1			
Of spleen			1	
Sinus:				
Of arm	1			
Of chest	1			
Of jaw	1			
Spina bifida	1			
Splenomegaly	1			
Sprain:				
Of ankle	1			
Of wrist	1			
Staphyloma	1			
Strabismus	2			
Stone in bladder	1			
Stricture of urethra	4			
Synovitis of knee	1			
Tonsillitis	5	1		
Trachoma	5			
Tumor:				
Of brain	2			
Of abdomen	1			
Of back		1		
Of eye	1			
Of face	2			
Of foot	2			
Of jaw	2			
Of neck	2			
Of testicle	1			
Ulcers:				
Of leg	8			
Of rectum		1		
Varicocele	6			
Varicose veins	2			
Volvulus		1		
Wounds, gunshot, of thigh	1			
Wounds, incised:				
Of arm and hand	4			
Of abdomen	2			
Of chest	1			
Of neck	1			
Of scalp	1			
Of thigh	1			
Wounds, infected:				
Of arm and forearm	1			
Of foot	16			
Of leg	2			
Of skull	1			
Wounds, lacerated:				
Of arm	4			
Of ear	1			
Of eye	2			
Of face	4			
Of fingers	3			
Of foot	2			
Of leg	2			
Of lip	3			
Of scalp	6			
Of toe	2			
Wounds, punctured:				
Of foot	2			
Of leg	1			
Of hand	1			

Classification of obstetrical and gynecological cases.

Diseases.	Recoveries.		Deaths.	
	Male.	Female.	Male.	Female.
Abortion		5		
Abscess of breast		1		
Antiflexion		1		
Cancer of uterus		1		
Childbirth		62		
Curettage		16		
Endometritis:				
Acute		3		
Chronic		8		
Hemorrhage, postpartum		1		
Menorrhagia and metrorrhagia		2		
Myoma of uterus		1		
Oophoritis		1		
Ovarian cyst		13		
Perineorrhaphy		4		
Placenta previa		2		
Pregnancy		10		
Pregnancy, extrauterine		5		
Retroversion and retroflexion		3		
Salpingitis and pyosalpingitis		9		
Septicaemia				1
Stillborn			2	
Uterine relaxation		1		
Trachelorrhaphy		5		
Vomiting of pregnancy		4		

FINANCIAL STATEMENT OF THE BUREAU OF HEALTH FOR FISCAL YEAR 1910.

The following statement shows the expenses and expenditures made during the fiscal year 1910 chargeable against the appropriation made by Act No. 1955 for the Bureau of Health during that period:

Amount certified to the Insular Auditor as outstanding liabilities from appropriation of the previous year and carried over		₱195,000.00
Amount appropriated in Act No. 1955		1,367,000.00
Total		1,562,000.00
Expenditures chargeable as follows:		
General:		
Salaries and wages	₱136,860.16	
Transportation in Manila	20,895.78	
Repairs to automobile	120.30	
Rent, telephones	1,006.60	
Cablegrams	98.48	
Hospicio de San José	44,600.60	
Asilo de San Vicente de Paul	2,166.00	
Colegio de Santa Isabel	3,432.00	
Protection of infants	5,470.65	
Erection of cottages for outdoor treatment of tuberculosis patients at Benguet	544.00	
Stationery and office supplies	21.41	
Establishing night camp for tuberculosis patients	706.82	
Traveling expenses, employees	3,728.31	
Freight	1,000.48	
Hookworm campaign	6,167.45	
Rent sanitary station	240.00	
Incidental, sanitary station	11.45	
Commutation of leave	28,765.09	

General—Continued.		
Periodicals	₱135.20	
Rent post-office box	32.00	
Postage and telegrams	2,235.06	
New furniture	43.44	
Repairs to furniture	386.38	
Printing and binding	12,157.21	
Incidentals, general	4,001.63	
Street-car tickets	2,160.00	
Miscellaneous supplies	61,059.97	
Board of examiners	1,210.00	
Amount transferred for administration building, Baguio	6,500.00	
Amount transferred for insane ward and laundry at San Lazaro Hospital	30,000.00	
Amount transferred for physicians and nurses quarters, San Lazaro Hospital	30,000.00	
Amount transferred for Tuguegarao Hospital	80,000.00	
Amount transferred for nurses quarters, Baguio	20,000.00	
Amount transferred for communicable diseases hospital, Cebu	30,000.00	
Amount transferred for Bontoc Hospital	20,000.00	
		₱555,756.47
Suppression and extermination of epidemic diseases and pests		75,465.97
Inspection division:		
Salaries and wages, medical inspectors	39,829.02	
Salaries and wages, district health officers	47,645.48	
Traveling expenses, medical inspectors	154.87	
Traveling expenses, district health officers	6,628.53	
Photographs	310.81	
Serum	390.50	
		94,959.21
Vaccination division:		
Salaries and wages	30,129.20	
Traveling expenses	5,272.59	
Vaccine virus	30,314.50	
Ice for virus	488.89	
Antiseptic supplies and dressings	149.10	
		66,354.28
San Lazaro Hospitals division:		
Salaries and wages	35,415.22	
Subsistence supplies	43,726.86	
Light	3,653.20	
Rent telephone	251.44	
Transportation	170.93	
Gratuity to lepers	1,499.23	
Incidentals	278.00	
Repairs	271.94	
Forage and horseshoeing	15.30	
Laundry allowance for nurses	235.20	
		85,517.32

Civil Hospital division:		
Salaries and wages	₱47.902.14	
Commutation of subsistence	1,802.16	
Subsistence supplies	32,232.06	
Rent buildings	10,470.00	
Light	4,146.30	
Rent telephone	260.50	
Laundry	5,203.79	
Repairs	175.06	
Medicine, medical and surgical supplies	10.76	
Miscellaneous and general supplies	482.40	
Transportation	1,118.35	
Extra transportation and incidentals	764.04	
Laundry allowance for nurses	650.09	
		₱105,217.65
Prison sanitation division:		
Salaries and wages		7,348.62
Baguio Hospital division:		
Salaries and wages	7,612.30	
Commutation of subsistence	895.00	
Subsistence supplies	7,522.83	
Repairs	189.99	
Fuel	1,011.80	
Laundry	719.18	
Freight	761.79	
Incidental	1,616.73	
Laundry allowance for nurses	161.28	
Miscellaneous supplies	4,108.25	
		24,599.15
Culion leper colony:		
Salaries and wages	22,575.45	
Subsistence lepers	69,934.30	
Subsistence employees	14,975.59	
Construction	26,196.27	
Incidentals	110.13	
Repairs	24.00	
Freight	5,380.31	
Collection of lepers	8,494.04	
Gratuity to lepers	14,358.80	
Miscellaneous supplies	24,416.87	
		186,465.76
Prior fiscal year		40,712.23
Total		1,242,396.66

In addition to the foregoing actual expenditures and expenses from funds appropriated in Act No. 1955, there are the following outstanding obligations chargeable to the appropriation of the Bureau:

General:		
Salaries and wages	₱110.00	
Transportation	1,755.75	
Repairs to automobile	203.00	
Rent telephones	294.23	
Stationery and office expenses	12.96	
Traveling expenses of employees	2,042.45	
Freight	463.46	
Hookworm campaign	244.59	
Commutation of leave	1,003.32	
Printing and binding	300.00	
Incidentals, general	2,695.20	
Miscellaneous supplies	57,596.06	
Board of Dental Examiners	8.00	
Miscellaneous, general	5,000.00	₱71,729.02
Suppression and extermination of epidemic diseases and pests		360.20
Inspection division:		
Salaries and wages	400.00	
Traveling expenses district health officers	15.00	415.00
Vaccination division:		
Salaries and wages	685.35	
Traveling expenses	526.85	1,212.20
San Lazaro Hospital division:		
Rent telephone	50.00	
Incidentals	1,099.45	1,149.45
Civil Hospital division:		
Salaries and wages	156.67	
Subsistence supplies	381.56	
Rent telephone	28.00	
Incidental	377.11	943.34
Baguio Hospital division:		
Subsistence supplies	15.75	
Freight	70.75	
Incidental	6,712.05	
Miscellaneous supplies	1,406.63	8,205.18
Culion leper colony:		
Salaries and wages	1,800.00	
Subsistence, employees	282.00	
Construction	9,000.00	
Freight	65.25	
Collection of lepers	9,795.95	
Miscellaneous supplies	12,392.76	33,335.96

Lighting General Hospital	₱7,000.00
Miscellaneous prior **fiscal year**	105,464.44
Total liabilities	229,814.79

The following amounts as credits to the above appropriation were collected during the fiscal year:

General	₱58,866.65
Civil Hospital	22,078.75
Baguio Hospital	7,502.78
Board of examiners	2,896.00
Sales of medicine, supplies, empty tubes vaccine virus, care of insane, etc.	5,230.18
Total receipts	96,574.36

The above does not include journal credit entry made by the Insular Auditor for the month of June, 1910.

Total available at the beginning of the fiscal year		₱1,562,000.00
Expenses and expenditures during the year	₱1,242,396.66	
Outstanding obligations	229,814.79	
Total	1,472,211.45	
Receipts	96,574.36	
Total chargeable against general fund		1,375,637.09
Total available		186,362.91

The following statement shows the expenses made from appropriation made by Act No. 1960 for the Bureau of Health for the Mountain Province, Province of Nueva Vizcaya and subprovince of Agusan:

Appropriated		₱23,000.00
Expenses	₱8,152.25	
Liabilities	745.00	
Total chargeable against appropriation		8,897.25
Balance available		14,102.75

In virtue of Act No. 1975, Nurses' Training School, the Bureau of Health has disbursed from the balance appropriated in Act No. 1931 the amount of ₱2,464.03, with an obligation outstanding at the end of the fiscal year in the amount of ₱420.54.

There are also obligations amounting to ₱66,880.30 for supplies for equipping the Philippine General Hospital chargeable against the ₱100,000 appropriated in Act No. 1954.

The Bureau of Health has also approved payment for the lots where the Cebu Hospital is to be erected, amounting to ₱1,750.

Census of the city of Manila taken by the Bureau of Health, January, 1910.

Health district.	Kind of house materials.			Number of inhabitants.		
	Strong.	Light.	Mixed.	Total.	Male.	Female.
No. 1, Intramuros	1,297	1,253	305	29,744	17,036	12,708
No. 2, Meisic	6,719	857	688	82,771	51,995	30,776
No. 4, Sampaloc	1,541	3,036	804	37,697	19,536	18,161
No. 5, Tondo	792	8,017	1,548	62,854	32,029	30,825
No. 6, Paco	293	2,720	757	21,843	11,012	10,831
Total	10,642	15,883	4,102	234,409	131,608	102,801

Health district.	Ages.											
	5 years and under.											
	Americans.		Filipinos.		Spaniards.		Other Europeans.		Chinese.		Other nationalities.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
No. 1, Intramuros	119	90	1,697	1,627	55	50	5	6	4	----	3	3
No. 2, Meisic	7	15	4,190	3,820	24	67	11	2	90	52	9	6
No. 4, Sampaloc	32	27	2,821	2,762	36	37	12	9	7	2	6	3
No. 5, Tondo	18	25	5,469	5,397	15	3	1	1	16	4	----	1
No. 6, Paco	27	23	2,006	1,974	8	15	9	4	1	----	4	1
Total	198	180	16,183	15,580	138	172	38	22	118	58	22	14
	Over 5 to 14 years.											
No. 1, Intramuros	55	39	1,950	1,672	35	56	4	1	7	1	5	5
No. 2, Meisic	12	15	4,536	4,042	45	46	1	3	393	51	6	7
No. 4, Sampaloc	19	10	3,047	2,729	38	39	7	7	11	1	1	3
No. 5, Tondo	9	12	4,499	3,922	35	51	4	----	11	2	3	2
No. 6, Paco	21	13	1,413	1,341	2	5	3	7	9	2	3	2
Total	116	89	15,445	13,706	155	197	19	18	431	57	18	19
	Over 14 years.											
No. 1, Intramuros	1,398	583	10,464	8,185	505	282	41	39	626	12	63	57
No. 2, Meisic	668	69	30,264	22,180	316	99	141	36	10,792	218	490	48
No. 4, Sampaloc	307	112	11,903	11,947	186	172	143	42	663	34	297	225
No. 5, Tondo	119	34	20,915	20,847	26	11	14	5	873	8	7	----
No. 6, Paco	214	87	7,003	7,247	24	81	63	23	190	3	12	3
Total	2,706	885	80,549	70,406	1,057	645	402	145	13,144	275	869	333

Health district.	Condition.							
	Single.		Married.		Widowed.		Divorced.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
No. 1, Intramuros	7,810	3,257	4,955	4,773	328	1,123	4	5
No. 2, Meisic	22,188	6,766	18,545	12,795	1,228	3,031	34	58
No. 4, Sampaloc	5,302	3,108	7,443	7,140	738	2,249	16	35
No. 5, Tondo	6,239	3,359	14,325	14,186	1,229	3,252	161	108
No. 6, Paco	2,477	1,706	4,521	4,506	487	1,214	21	18
Total	44,016	18,196	49,789	43,400	4,010	10,869	236	224

Census of the city of Manila taken by the Bureau of Health, January, 1910—Cont'd.

Health district.	Americans.	Filipinos.	Spaniards.	Other Europeans.	Chinese.	Other nationalities.
	Male.					
No. 1, Intramuros	1,572	14,111	595	50	637	71
No. 2, Meisic	687	38,990	385	153	11,275	505
No. 4, Sampaloc	358	17,771	260	162	681	304
No. 5, Tondo	141	30,883	76	19	900	10
No. 6, Paco	262	10,422	34	75	200	19
Total	3,020	112,177	1,350	459	13,693	909
	Female.					
No. 1, Intramuros	712	11,484	388	46	13	65
No. 2, Meisic	99	30,032	212	41	331	61
No. 4, Sampaloc	149	17,438	248	58	37	231
No. 5, Tondo	71	30,166	65	6	14	3
No. 6, Paco	123	10,562	101	34	5	6
Total	1,154	99,682	1,014	185	400	366
	Both sexes.					
No. 1, Intramuros	2,284	25,595	983	96	650	136
No. 2, Meisic	786	69,022	597	194	11,606	566
No. 4, Sampaloc	507	35,209	508	220	718	535
No. 5, Tondo	212	61,049	141	25	914	13
No. 6, Paco	385	20,984	135	109	205	25
Total	4,174	211,859	2,364	644	14,093	1,275

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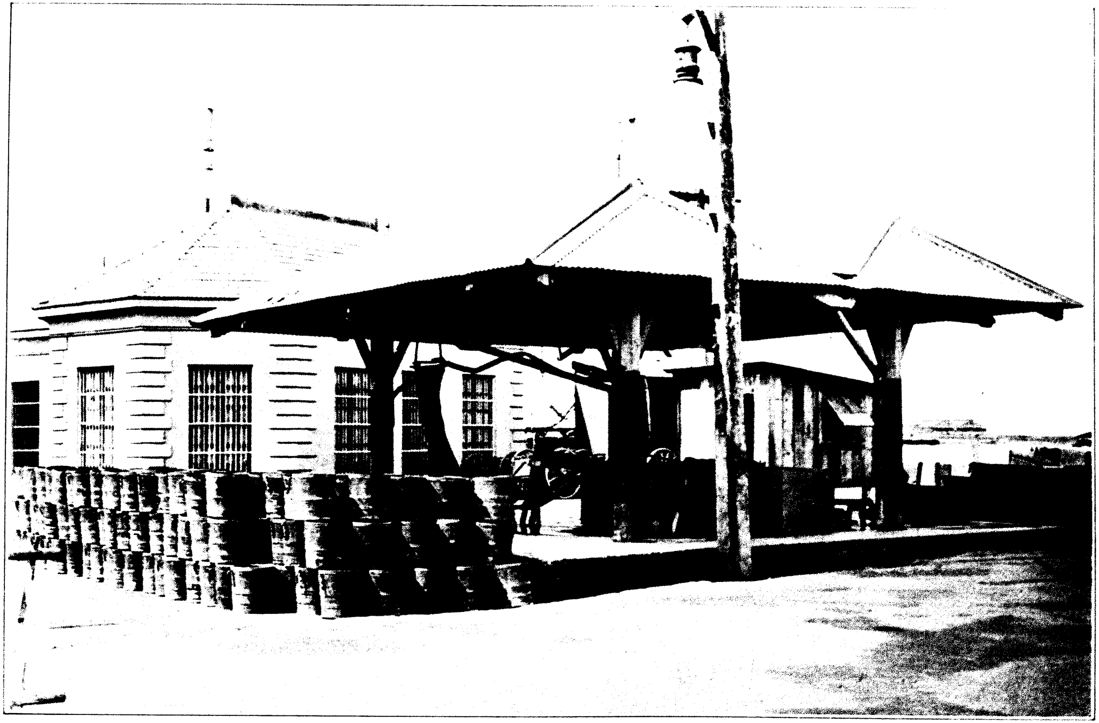
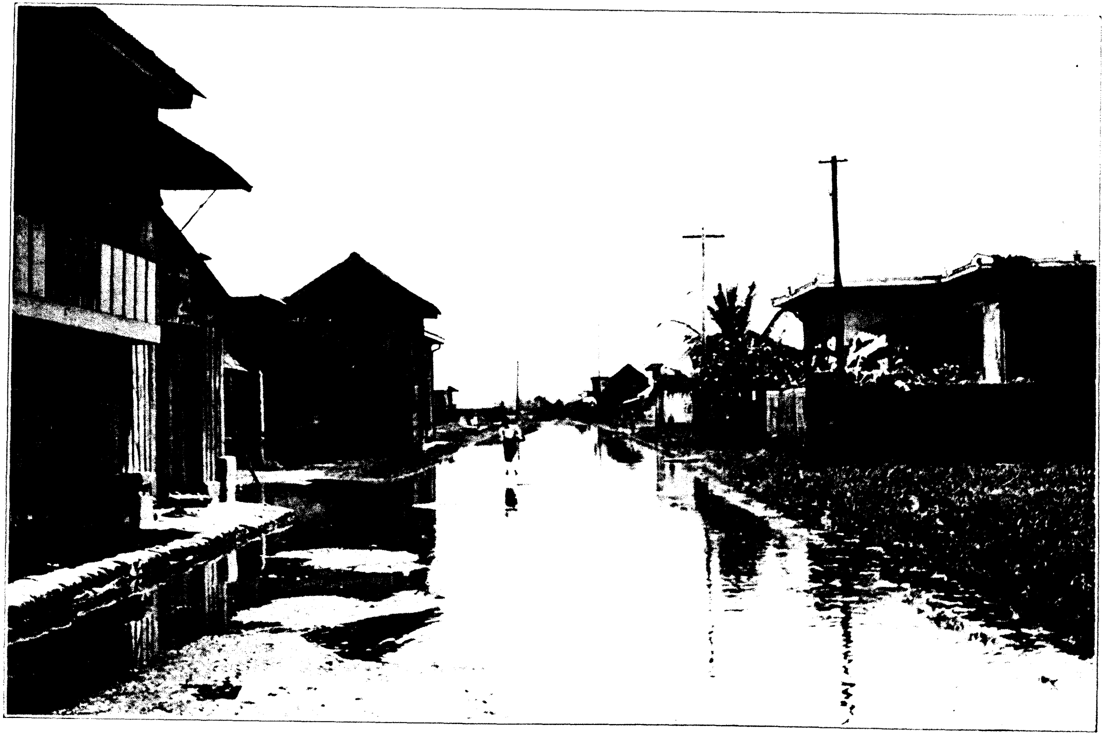
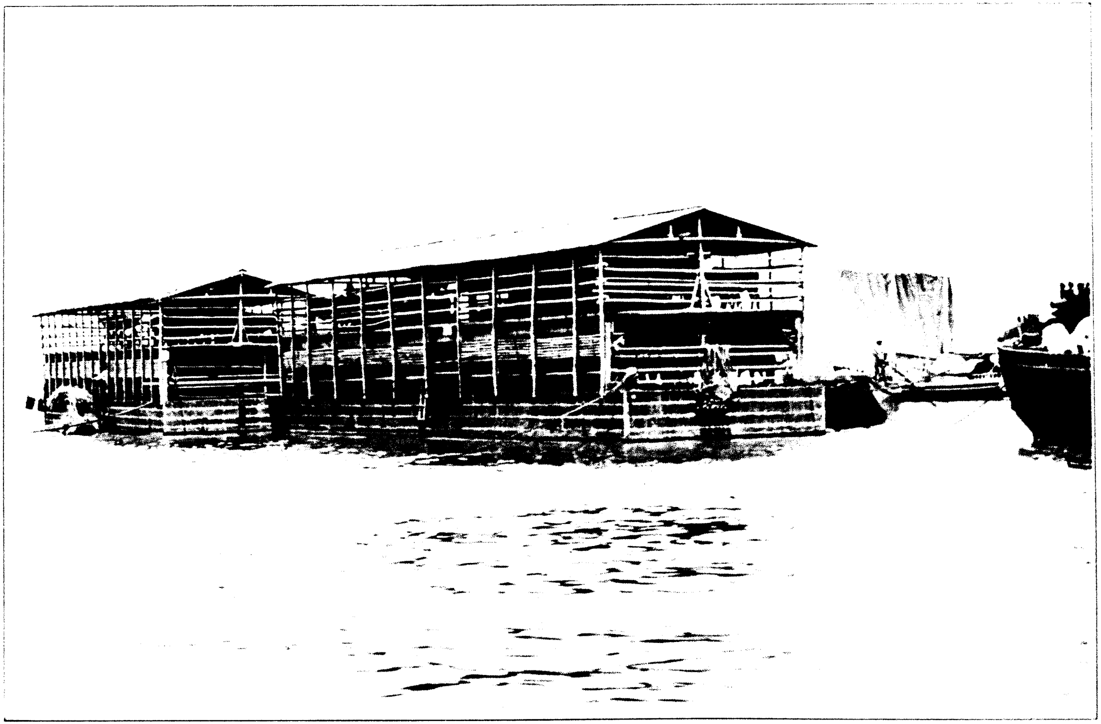


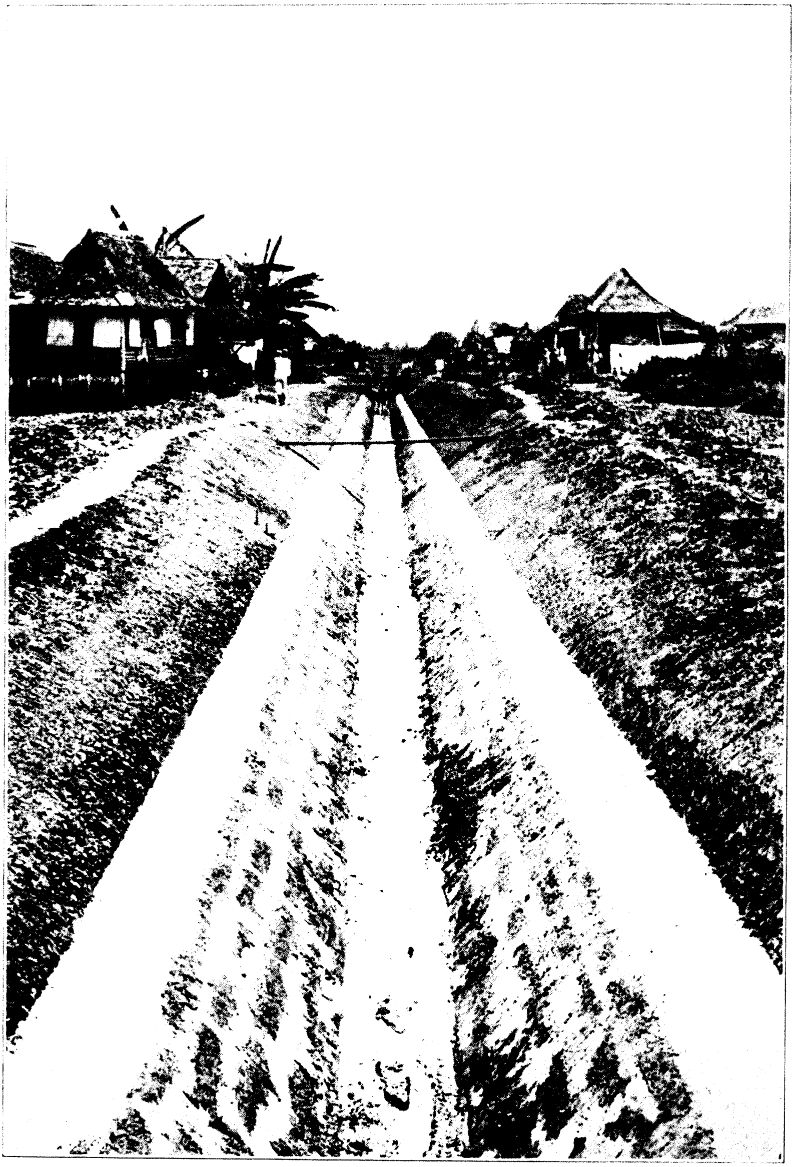
NEW PAIL CLEANING SHED, OPERATED IN CONNECTION WITH SEWER PUMPING STATION.



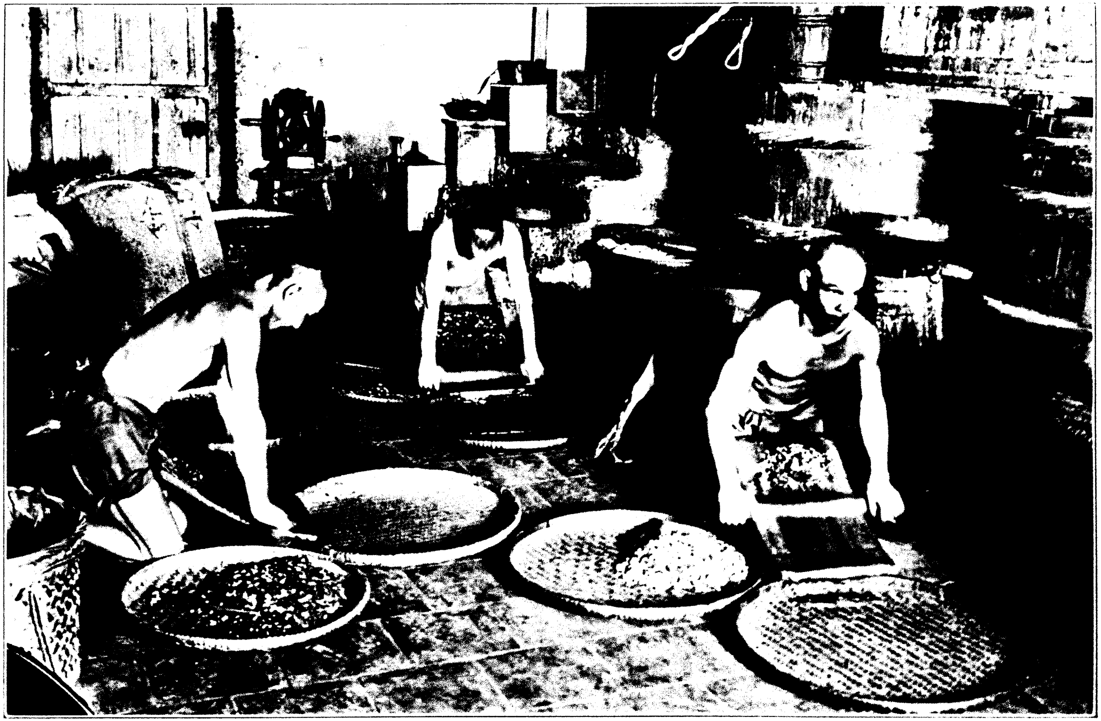
FLOODED STREET DURING HIGH TIDE, CALLE TIMBUGAN (SHOWING CITY TO BE BELOW SEA LEVEL).



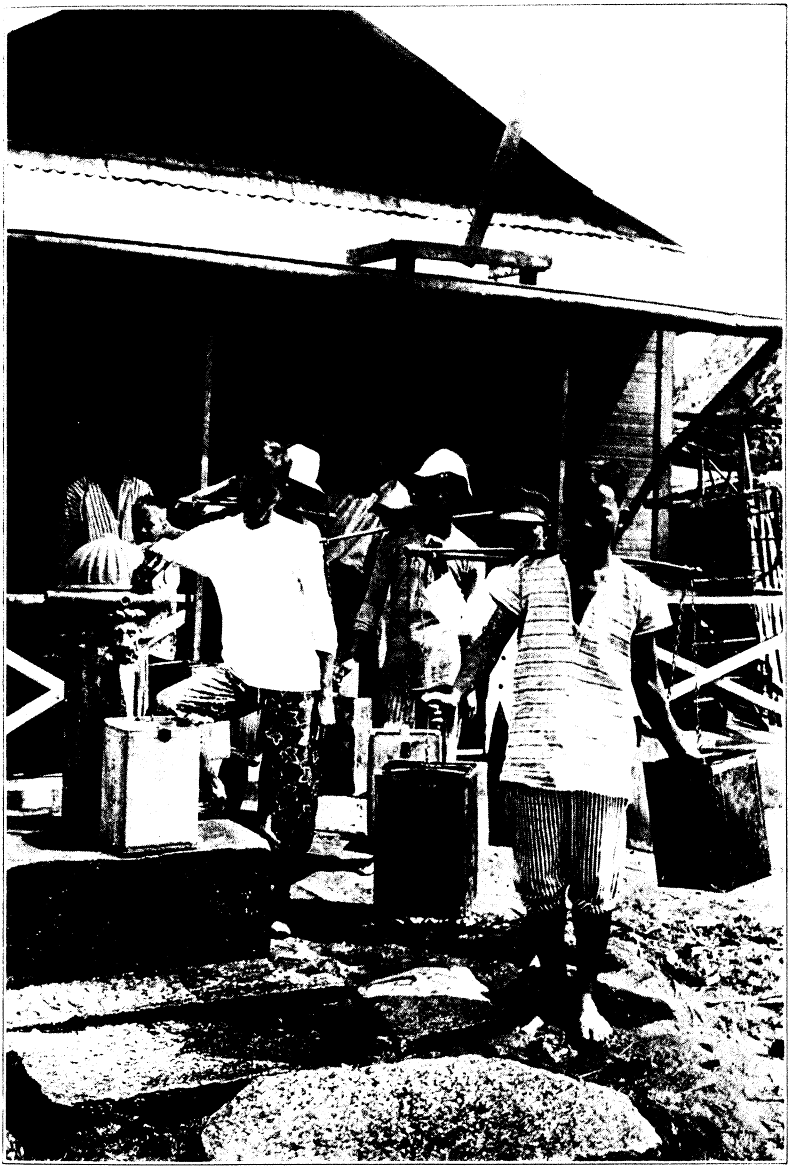
CATTLE QUARANTINE BOATS, MANILA BAY.



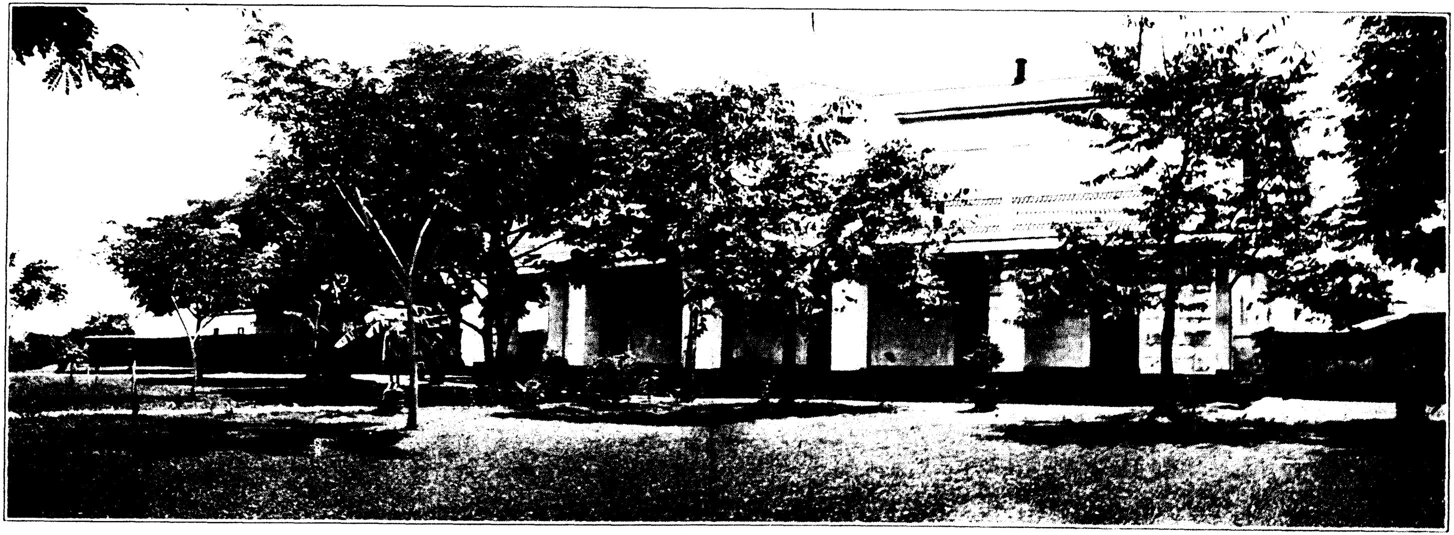
MAIN DRAINAGE DITCH, SANITARY BARRIO, SAMPALOC.
(Draining large area of low land.)



CHINESE MANUFACTURING CHOCOLATE.

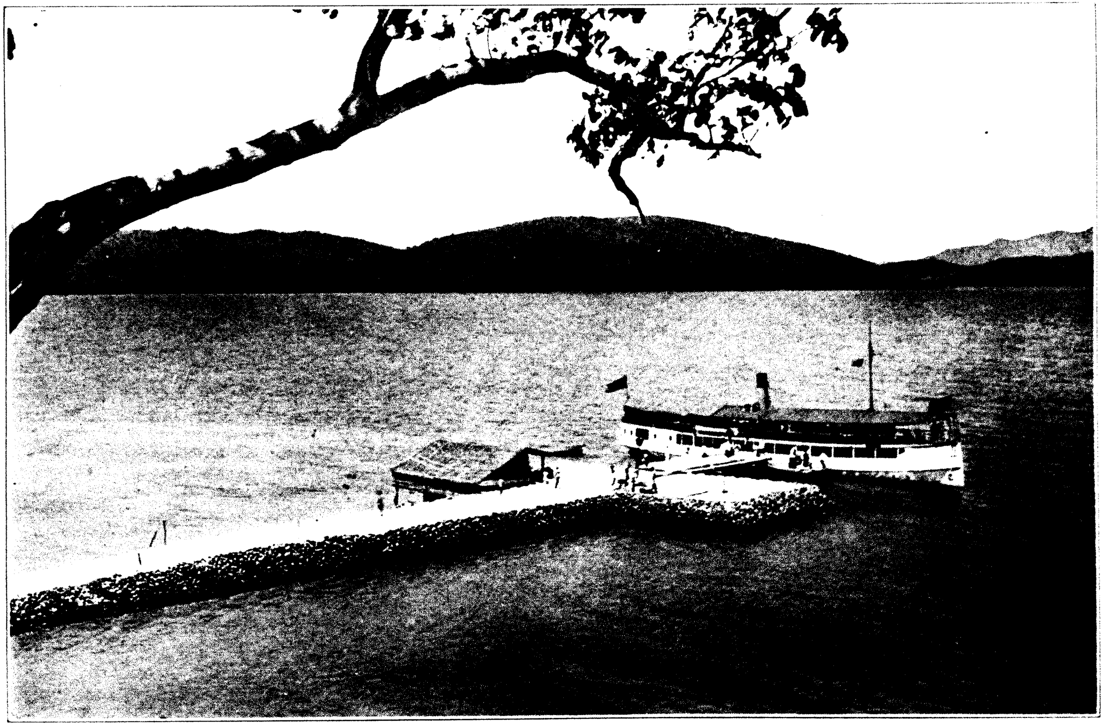


WATER CARRIERS TO OUTLYING BARRIOS (MANILA).

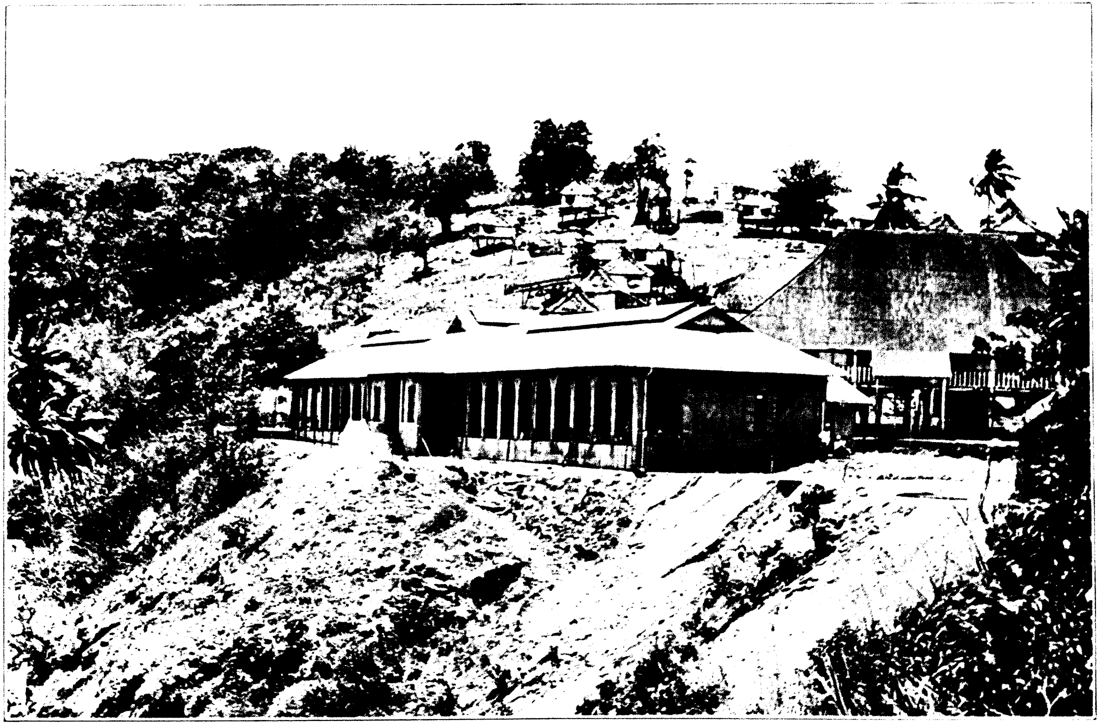


HEADQUARTERS OF TUBERCULOSIS CAMP AT EL DEPOSITO, SAN JUAN.

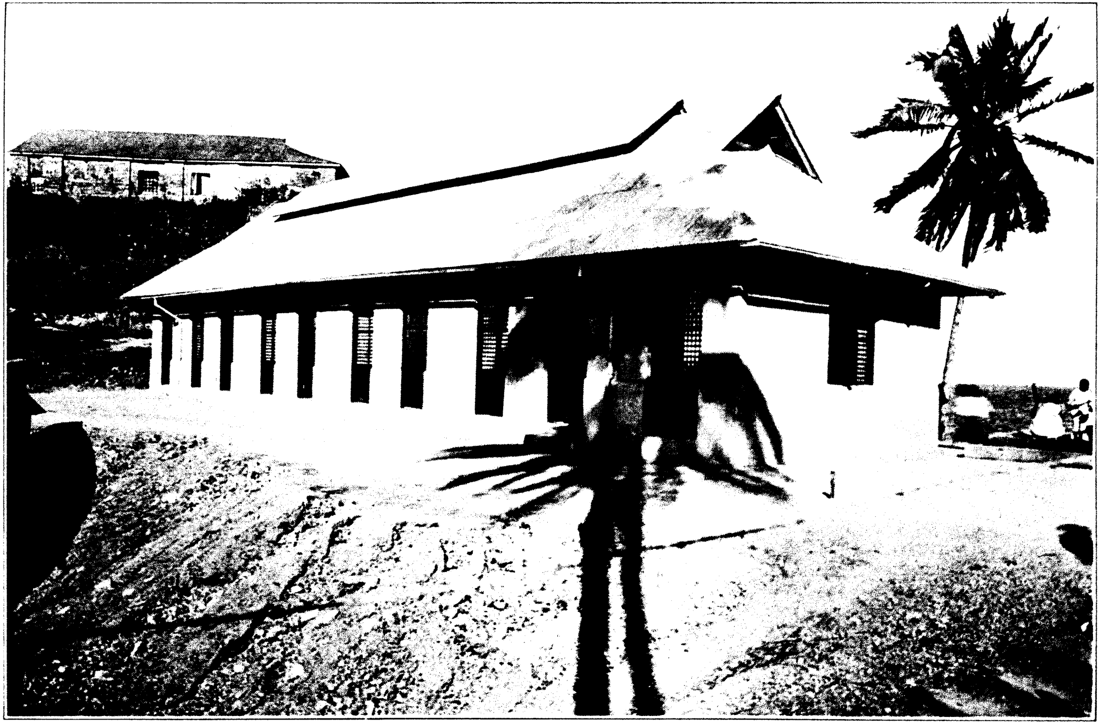
CULION LEPER COLONY, LOOKING TOWARD THE SOUTHEAST



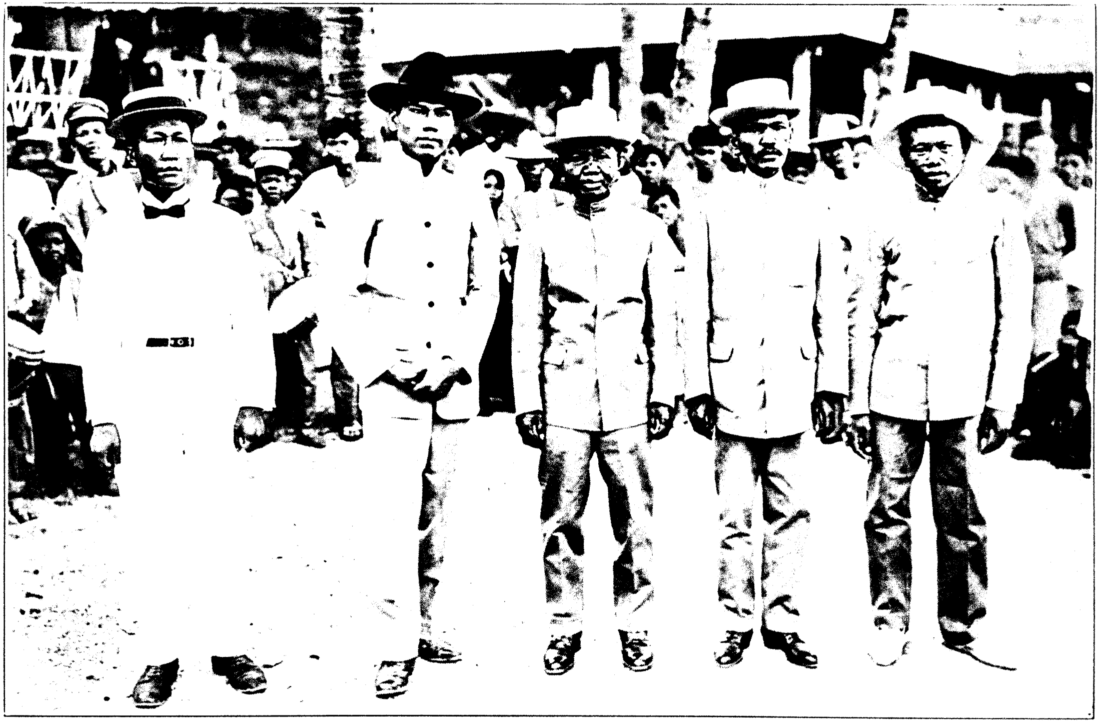
NEW CAUSEWAY RECENTLY COMPLETED, CULION LEPER COLONY.



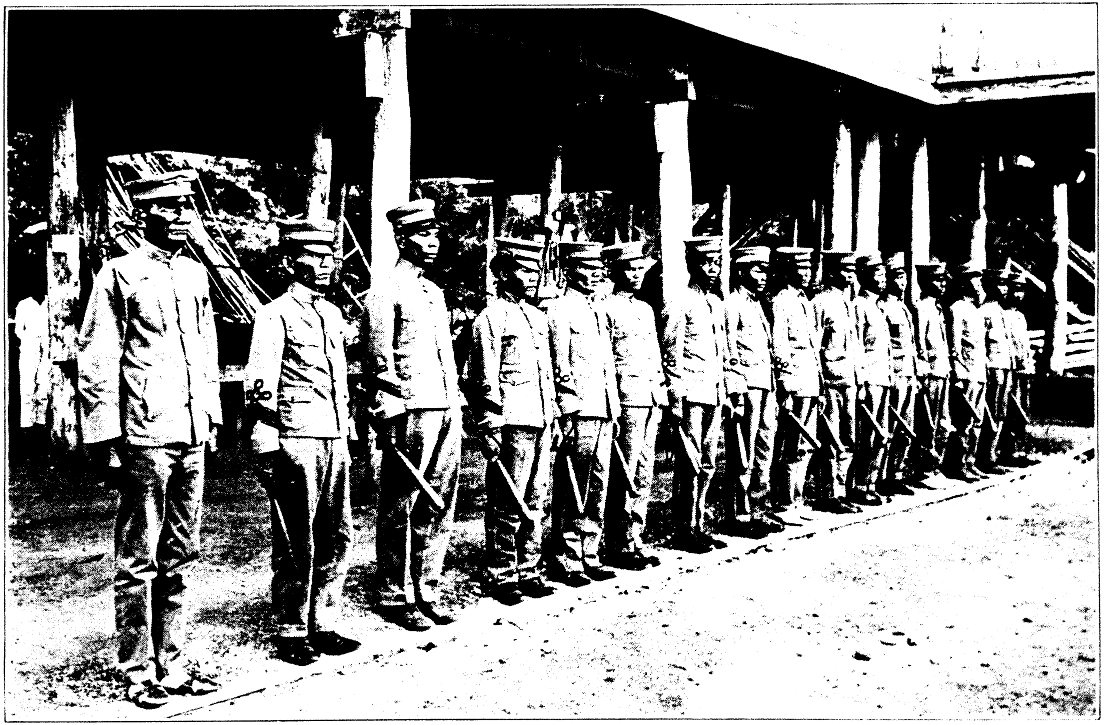
NEW REINFORCED CONCRETE HOSPITAL, CULION



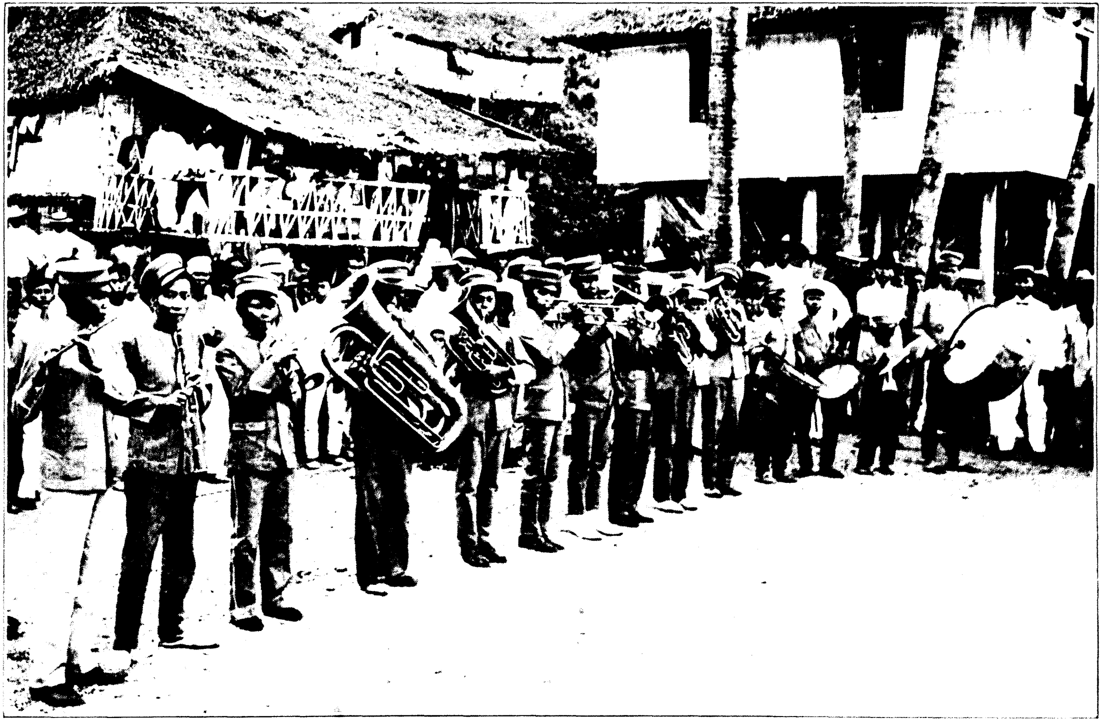
NEW TYPE OF REINFORCED CONCRETE TENEMENT HOUSE FOR LEPERS AT CULION.



MUNICIPAL PRESIDENT AND COUNCILORS OF THE CULION LEPER COLONY (ALL LEPERS).



CULION POLICE FORCE (ALL LEPERS).



LEPER BAND, CULION LEPER COLONY.

INTERIOR VIEW OF MEN'S HOSPITAL, CULION LEPER COLONY.

CHAPLAINS OF THE CULION LEPER COLONY.

SISTERS OF CHARITY AS NURSES, LEPER HOSPITAL AT CULION.